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Economic development through agrarian reform

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ECONOMIC DEVELOPMENT THROUGH AGRARIAN REFORM

by

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INTRODUCTION

During the first half of this century, economically underdeveloped nations the world over have become increasingly desirous of initiating economic development. They have seen the remarkable rise in material levels of living which have come to the West[1] following the industrial and agricultural revolutions of the 19th and 20th centuries. They have seen the accompanying increases in power and influence of Western Civilization. Now they are no longer willing to sit idly by; they wish to participate in this surge of economic progress.

The imperative necessity that concerted action be taken to foster economic development has taken on a new urgency for the Free World since the end of World War II. The poverty of millions can no longer be ignored. In the United States, public recognition of the necessity for action has taken the form of Point IV, named after the electrifying proposal for technical assistance advanced by President Truman in his inaugural address of 1949. In the British Commonwealth, the Colombo Plan was formed in 1950 to foster economic development throughout Southeast Asia. In the United Nations, 76 governments pledged support in 1954 for sharing

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1. In this dissertation, Western Civilization is taken to mean that group of related cultures stemming from the Roman Empire, including the Western Hemisphere settled by European emigrants, and Australia and New Zealand. The West is interpreted to include Western Europe, the United States, Canada, New Zealand, and Australia. The Free World includes all areas not dominated by the Soviet Union or the government of Communist China.

technical knowledge through intercountry assistance programs. Since the United Nations technical assistance program began, more than 100 countries and territories have been aided.

Coincidental with the advent and growth of technical assistance programs, more and more interest has been exhibited by professional economists in elaborating a theory of economic development and in devising means of promoting economic development in what has come to be called "underdeveloped" nations.

D. R. Gadgil,[2] the director of the Gokhale Institute of Economics and Political Science in Poona, India, speaks from the heart of a vast underdeveloped area:

> There is restlessness, tension, expectancy among the masses everywhere. It remains to be seen whether these are immediately utilized for the cause of peaceful progress or not. The prospect depends . . . to a significant extent on social thinking among leaders of the capitalistic world.

This awakening of the masses in the underdeveloped countries demands that constructive action be undertaken so these people may embark upon a self-betterment program. This demand is one of the most pressing problems of the second half of the 20th century. The framework for solving the problem of how to foster economic development has not yet been elaborated, although important beginnings have been made. The academic discipline of economics is confronted with both a responsibility and an opportunity of tremendous importance in helping shape the framework within which economic development may be achieved.

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2. D. R. Gadgil, "Pre-Conditions of Economic Development," Indian Economic Review, Vol. 1, No. 1 (February, 1952), pp. 14-20.

Underlying this rising need for constructing a framework for economic development has been a concept based largely on a per capita increase in income and an accompanying per capita increase in material levels of living. People of the underdeveloped regions have seen what progress has been made in the West toward reducing death rates, improving standards of health, and raising material levels of living. They wish to share in these improvements.

Woytinsky and Woytinsky[3] present data which indicate 39 per cent of the world's population had a per capita income of less than 60 United States dollars in 1948, and received only 8 per cent of the total world income. They also indicate that the approximately 10 per cent of the world's population having per capita incomes of over 750 United States dollars received some 54 per cent of the total world income. Figure 1 indicates the per capita income in the United States, the Soviet Union, and a group of underdeveloped countries.

Figures detailing the overall level of incomes are dismal enough. But when attention is turned to the rural population, the situation is even less attractive. In Italy, Sulzberger[4] reports agents of the big landowners go through the crowds of unemployed at Monopoli picking from among the hungry those who are the sturdiest-looking and saying, "you, you, and you will do. Three hundred lire [48 cents] a day and bread."

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3. W. S. Woytinsky and E. S. Woytinsky, World Population and Production (New York: The Twentieth Century Fund, 1953), p. 434.

4. C. L. Sulzberger, "Italian Reds Gain in Stricken South," New York Times, March 18, 1954, p. 8, col. 3.

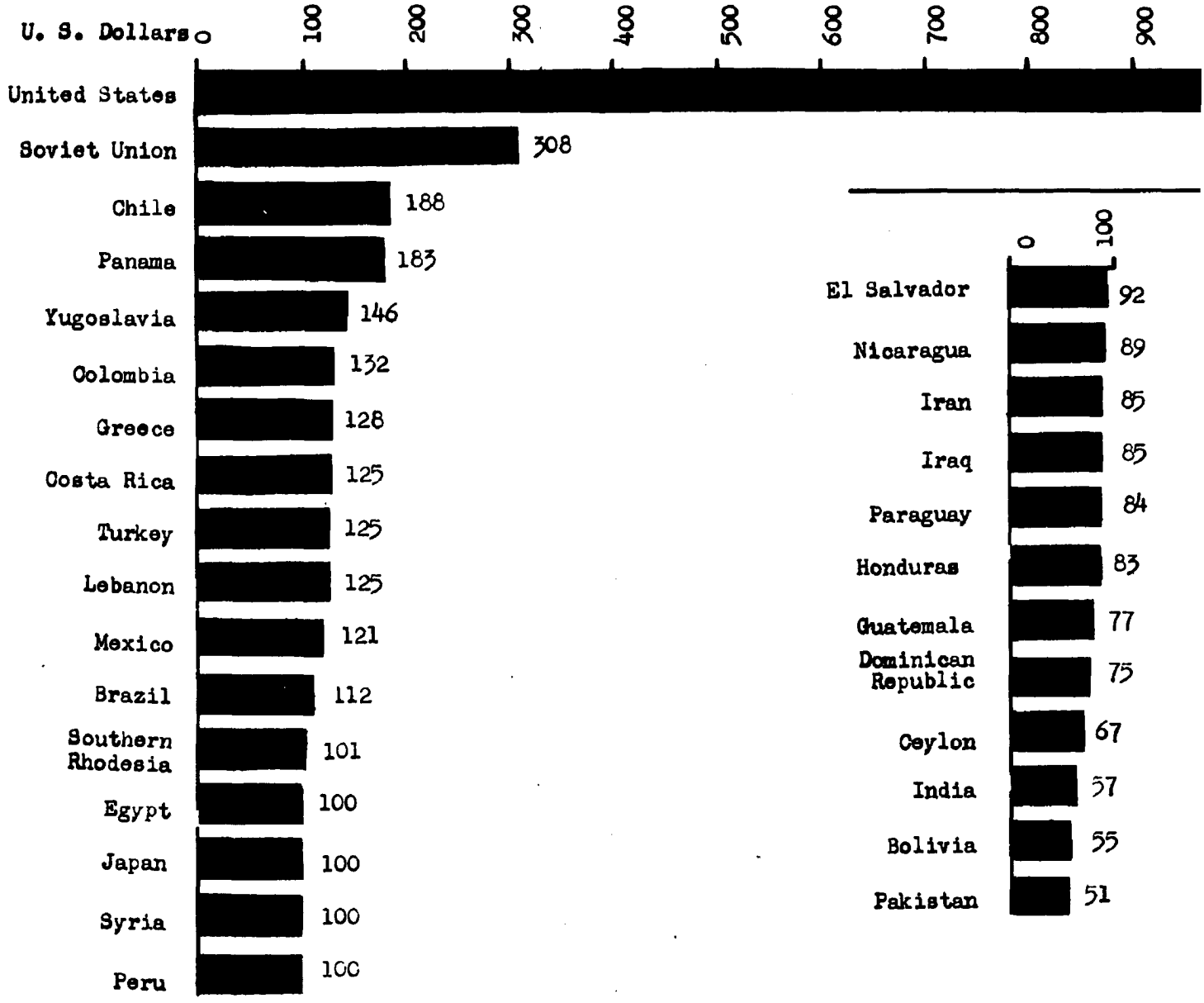
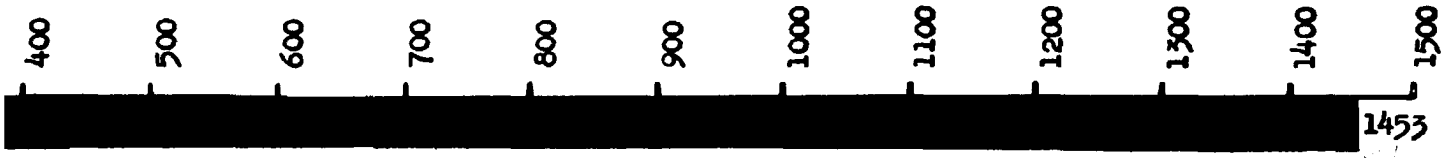
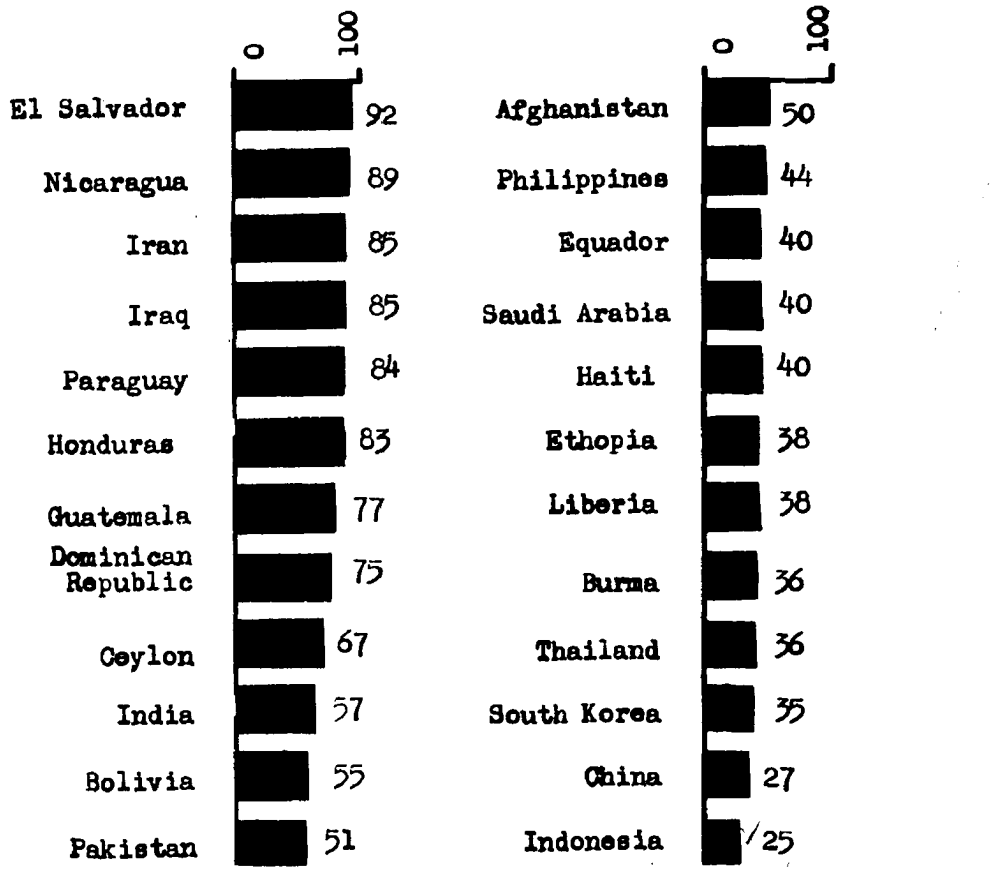


Figure 1. Per capita income in the United States, Soviet Union, and various





the United States, Soviet Union, and various underdeveloped countries

In Egypt, Cooke[5] reports:

> . . . the real income per capita from farming is exceedingly low. . . . for example, an unskilled farm laborer receives the equivalent of 22 cents a day for work which is irregular throughout the year. The average annual income for all actual farmers in that country is estimated at $54.75, as against an estimated per capita income of $100 for all Egyptians.

These low-income rural people are becoming increasingly aware of new possibilities for economic advancement. They provide a compelling humanitarian reason for effective action to promote economic development on the part of people in economically more developed countries, especially the United States. From another standpoint, an urgent reason to take effective action arises out of the cold war situation in which a world-wide Communist organization creates unrest and tension by blaming Western inaction, impotency, and imperialism for continued poverty in underdeveloped areas. As an alternative, the Communists offer revolution and inclusion within the Soviet sphere of influence. That choosing the Communist alternative will not, in fact, improve the economic lot of agrarian peoples does not appear to weigh heavily with them. Their dissatisfactions are so great that any alternative holding out a path from poverty to a position of dignity appears attractive. Uneducated peoples in underdeveloped regions do not always see that the Communist alternative leads to authoritarianism and political repression; they do not always realize that Communism has not meant economic advancement and freedom for peoples subject to Soviet domination, including the people of Russia.

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5. Hedley V. Cooke, Challenge and Response in the Middle East (New York: Harper & Brothers, 1952), p. 38.

However, these people do see that progress has come slowly, that much remains to be done, and that the nations of the West--especially the United States--could exert more effective and aggressive leadership.

The recurrent crises of the cold war have tended to focus the attention of leaders in the United States upon immediate solutions and upon military defenses. The policy has been to "contain" Communism. Such a policy is without question important. But it is essentially stop-gap in its character, meeting first one crisis and then another. Basically, it is negative in its approach.

If the Free World is to exert effective leadership in economic development throughout the world, a much more positive approach will be necessary. It must initiate a program to effect a rapid realization of economic development in underdeveloped areas. Such a program would engender an atmosphere of hope and optimism and eliminate the strongest appeal of Communism, that geared to dissatisfaction and despair.

For these reasons of humanitarianism and international peace, therefore, it is becoming increasingly important United States policy be directed toward accelerating the economic development of underdeveloped regions.

The problem of economic development in underdeveloped regions revolves very largely around the problem of agrarian reforms directed toward the economic development of agriculture. Woytinsky and Woytinsky[6] show that in Asia in 1948 70.0 per cent of the population was agricultural; in Africa 74.0 per cent was agricultural; in South America the figure was

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6. Woytinsky and Woytinsky, op. cit., p. 459.

62.6 per cent. On these three continents are found the bulk of the underdeveloped nations. Over the world, the percentage of the male workers engaged in agriculture is some 58.5 per cent, ranging from 8 per cent in the United Kingdom and 13 per cent in the United States to 70 per cent in India, 72 per cent in Turkey, and 73 per cent in China.[7]

Even more indicative of the importance of agriculture to economic development in underdeveloped areas is that approximately 57 per cent of the total world population lives in what Woytinsky and Woytinsky[8] classify as "prevailing subsistence economies," which are, of course, primarily agricultural. This area embraces more than 100 countries, including colonial possessions and mandates. The area encompasses those nations "in the largest part of Asia and Africa, on the Pacific Islands and in some parts of South America." These people had an average per capita income in 1948 of 60 United States dollars. Another 11 per cent of the people in the world live in a money economy characterized as "primarily agricultural." These people had a per capita income of roughly 170 United States dollars.

These facts indicate the importance of agrarian reform in any plan for overall economic development in underdeveloped areas. Such a plan cannot help but be interrelated to plans for agrarian changes.

Likewise, agrarian reforms cannot be considered separately from overall economic development. In predominantly agricultural regions, any

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7. Food and Agriculture Organization of the United Nations, Yearbook of Food and Agricultural Statistics, 1953 (Rome: Food and Agriculture Organization of the United Nations, 1954), pp. 16-17.

8. Woytinsky and Woytinsky, op. cit., p. 439.

important change in agriculture will have a significant influence upon the non-agricultural sector of the economy.*

Therefore, agrarian reform can only be properly evaluated by considering not only the effects projected reforms will have on agriculture itself, but also the effects in terms of overall economic development. The goals of agrarian reform must necessarily be governed by the goals of overall economic development.

This dissertation is devoted to the examination and analysis of this proposition that defects in agrarian structures inhibit agrarian development and are, therefore, impediments to overall economic development; and, conversely, that agrarian reform facilitates agrarian development and hence economic development.

The increasingly imperative necessity of action to promote economic development has led society in recent years to turn to economists with requests for guides to effective action. Long[9] writes:

> Today society is making demands upon economics which will have remolding effects of great magnitude [on economic theory]. I refer to the demands the world is making for policies directed toward its economic development.

There is, unfortunately, no established theory of economic development to act as a framework of thinking for economists when they consider the problem of economic development in underdeveloped regions. The problem is, however, receiving the attention and thought of many professional economists who are gradually contributing to the backlog of information and opinion regarding development. One can hope that in the not-too-

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9. Erven J. Long, "Some Theoretical Issues in Economic Development," Journal of Farm Economics, Vol. 34, No. 5 (December, 1952), pp. 723-731.

distant future the groundwork will thereby be laid for a mind with the sweep of insight and intuitive grasp of an Adam Smith or a John Maynard Keynes who can elaborate the needed theory. For the present, however, as Long[10] points out, "economics has not . . . taken us very far toward the solution of this type of problem."

Yet action must be initiated, in spite of uncertainties and qualms. Action must be initiated even though, as Bloch[11] points out, "in this field almost everybody is a beginner." He cites programs of fellowships, scholarships, exchanges, and United Nations-sponsored seminars, and concludes that elaborating a theory of economic development and proposing valid programs of economic development is a process "of learning together rather than teaching one another."

Since a consideration of agrarian reform must necessarily be set in the framework of overall economic development, the first objective of this dissertation is to develop those factors which can be said to affect economic development. These are derived from the writings of economists concerned with economic development as expressed both in the historical development of economic theory and in the more recent writings explicitly concerned with the problems of economic development in underdeveloped areas. These factors, it should be noted, are not proposed as a comprehensive general theory of economic development.

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10. Ibid., p. 724.

11. H. S. Bloch, "Economic Development and Public Finance," in Bert F. Hoselitz (ed.), The Progress of Underdeveloped Areas (Chicago, The University of Chicago Press, 1952), pp. 248-258.

The resource inefficiencies engendered by defects in the agrarian structure are then elaborated. In these discussions emphasis is placed on: (1) the importance of evaluating agrarian reforms in the framework of necessary conditions for economic development; (2) the importance of defects in agrarian structures as impediments to economic development; and (3) the various remedial measures which could be embodied in an agrarian reform to promote economic development. The recent agrarian reform actually undertaken in Japan as a co-ordinated program is examined in the context of overall economic development.

Finally, some alternative approaches for future action and research in regard to agrarian reform in underdeveloped countries are presented for further consideration by administrators and the economics profession.

THE CONCEPT OF ECONOMIC DEVELOPMENT

No widely accepted theory of economic development has been advanced by economists, despite long and continued concern in the profession with this problem. The emphasis of economic theory during the early 19th century was changed by the success of marginality as a tool of economic analysis. Abandoning the broad concerns of Adam Smith and John Stuart Mill, economists snatched up this powerful new tool which enabled them to construct a logically quite complete theory of the firm.

To condemn economists for shifting their area of inquiry would be quite unfair, for their society--the bustling, expanding economy of the 19th century Western Europe and North America--was asking for firm analysis. The society took progress and economic growth for granted; it was interested in how to increase firm efficiency and how to reduce conflict between firms, between capital and labor, and between participants in the firm.

But with the great depression of the thirties the demands of the society turned to larger considerations again. As Long[1] writes:

> . . . the mammouth depression of the '30's . . . brought into existence the many aggregative theories of the function of the economy--attempts to understand why an economy should fail to realize its obvious, and previously attained, productive capacities.

The destructive effects of World War II and the widespread unrest which followed, focused the attention of the Western World on an even

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1. Erven J. Long, "Some Theoretical Issues in Economic Development," Journal of Farm Economics, Vol. 34, No. 5 (December, 1952), pp. 723-731.

broader problem of economic development: how to foster the economic growth of what came to be called "underdeveloped" areas. In the United States the development of the Marshall Plan and Point IV show the practical concern of the society. The explicit directives of the United Nations General Assembly have resulted in a number of studies such as Measures for the Economic Development of Under-Developed Countries[2] and Land Reform, Defects in Agrarian Structure as Obstacles to Economic Development.[3]

These forces have caused an increasing undercurrent of interest among professional economists in theories of economic development applicable to underdeveloped areas. Such leaders in economic thought as Jacob Viner, J. K. Galbraith, and T. W. Schultz, while continuing to emphasize their respective areas of specialization in their research, have prepared contributions on economic development.[4]

In extending their field of interest, economists have recognized both the lack of a theoretical and empirical basis. Perhaps even more important, they have recognized their unfamiliarity with the relevant social and institutional conditions.

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2. United Nations Department of Economic Affairs, Measures for the Economic Development of Under-Developed Countries (New York: United Nations Department of Economic Affairs [United Nations Publications Sales Number 1951.II.B.2], May, 1951), 108 pp.

3. United Nations Department of Economic Affairs, Land Reform, Defects in Agrarian Structure as Obstacles to Economic Development (New York: United Nations Department of Economic Affairs [United Nations Publications Sales Number 1951.II.B.3], July, 1951), 101 pp.

4. See, for example, Jacob Viner, International Trade and Economic Development (Oxford: Clarendon Press, 1953), 120 pp.; J. K. Galbraith, "Conditions for Economic Change in Underdeveloped Countries," Journal of Farm Economics, Vol. 33, No. 4, Pt. 2 (November, 1951), pp. 689-696; and Theodore W. Schultz, The Economic Organization of Agriculture (New York: McGraw-Hill Book Company, Inc., 1953), 374 pp.

Causes of Economic Development

Economic literature has tended to assign the causes of economic development to three major sources:[5] (1) technological innovations; (2) changes in population; and (3) geographical discovery.

Ancient and medieval writers tended to view the society as analogous to a biological organism which ceased development at maturity and after which further change could only mean decay.[6] More recently, writers have tended to discard any simple explanations of cause and have expressed the opinion that whatever the sources of economic change, they must arise as a result of complex interreactions of innovation, geography, and population. Further, they insist, the spirit of a people which wants and is willing to strive consciously for economic development is a much more important influence than previously recognized.

Each of the three theories of economic development has one factor in common: each recognizes a cause to which can be traced the beginning of the developmental process. The theories of economic development that have been proposed in the West since the renaissance have all assumed that economic development was lineal and directed toward some goal of human betterment, however vague or distant. Most of the causes suggested are exogenous to the economic system itself, and are not themselves explained by the theory proposed. Most of the theories of economic development are

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5. B. S. Keirstead, The Theory of Economic Change (Toronto: The Macmillan Company of Canada, Ltd., 1948), p. 65.

6. George H. Hildebrand (ed.), The Idea of Progress (Berkeley: The University of California Press, 1949), p. 7.

teleological in nature, despite the fact that the concept of cause itself is drawn from the mechanistic concepts of physical science.

Today, influences of cause and teleology are seen in the theories of economic change upon which economists base their work, including the factors affecting economic development proposed in this dissertation. They arise from an underlying philosophical basis common to all modern thinking.

Keirstead[7] points out the implicit recognition of causality in the theories of economic development. His purpose is not so much to deny the usefulness of the concept as to point out its conditions and especially to point out its lack of generality. In a physical-institutional world, "reality" determines the limits within which decisions may be made. In this area, free decisions are taken, but they obey causal laws which are not physical or mechanistic, but are derived from the prevalent system of values or mores. Therefore, "cause is consequently purposive."

The importance of recognizing this implicit causality in thinking about economic development in the context of underdeveloped areas lies largely in avoiding implicit assumptions which may not be valid for the society in question. More and more, however, Western concepts of economic life are being accepted throughout the whole world. Nonetheless, the degree to which they operate varies, and economists must be constantly on the alert not to transfer implicit assumptions without justification.

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7. Keirstead, op. cit., p. 28.

Genesis and Growth of Economic Development Theory

Beginning concepts of early Greek philosophers

Ancient thought on the problem of economic development was tied to the concept of the society as an organism in process. The analogy to the biological phenomena of animals and plants, where the growth, maturity, and death of individual animals, plants, and human beings occur, was obvious. Following a conventional legend, Plato, in the Statesman, held that the three ages of mankind were correlated with the three ages of the world, each of which was in turn initiated by an act of the gods. Political societies, made up of an aggregation of men, therefore were organisms too. Each followed the inevitable natural course of change with phases of growth, maturity, and death which were repeated again and again in every society throughout the course of human history. Plato, in framing his ideal republic, therefore, cast it in the form of Athenian society (which he considered the mature form) but endowed it with a rigidity which eliminated all possibility of change. The republic would, thereby, avoid the inevitable decay which must come if change were to occur.

Aristotle, one of the earliest philosophers to concern himself with the organic world, was also led naturally to the concept of a stationary society cast in the form of a city-state. For him, too, this was the ultimate form for all of society, from which only decay could ensue. When studying society, then, as when studying natural phenomena, the task of the philosopher was to determine the course of change in the thing studied. A concept of cyclical change, of inevitable rise and fall, was built for future generations to contemplate.

Concepts of Scholasticism

The ascendancy of the Christian religion, however, posed problems for

men trying to interpret the world about them. Christianity--with its doctrine of the purposefulness of life--could not admit the cyclical theory of society which seemed so obvious to the ancient philosopher.

St. Augustine grappled with the problem in the 4th century, setting the pace for thinking in the early middle ages. To him the doctrine of cycles was self-evidently in error, since it postulated the recurrent appearance of Christ and denied the Christian conception of a purpose for mankind. The ultimate purpose which he saw was the salvation of mankind in the city of man in order that men could dwell in the Heavenly City of God. But St. Augustine retained some aspects of Plato's and particularly Aristotle's concept of society as an organism. He postulated that all mankind could be regarded as a single man, whose early experience constituted a gradual advance from conception through birth and that development brought about after birth by education effected a slow transition from ignorance to knowledge and finally to faith. By employing this analogy, St. Augustine was able to retain the Aristotelian concept of history as a continuously unfolding process, and at the same time to preserve the Christian emphasis upon the purposeful series of events as governed by Providence.

St. Augustine's concern with maintaining a teleological concept of development is still reflected in the underlying assumptions of today's economists concerned with economic development. More modern thinking has dropped the concept of any one state of society as being the ultimate or most desirable form, substituting the concept of continuous progress in the longest sense as a constant progression but with a firmly teleological purpose nonetheless.

Development by Classical economists

Thomas Hobbs and John Locke picked up the elements of teleological change and of history as an unfolding progression to incorporate into their famous works. With them, also, arose the more optimistic view of economic change which has been a part of economic thinking to the present time. Drawing upon the outburst of energy reflected in the development of early science and the literary accomplishments of Elizabethan England and contemporary France, they concluded that progressive development in the past had been natural and necessary, and that progressive development, as a natural and necessary phenomenon, assured the continued and unlimited increase of knowledge and welfare in the future. Scholars of the 16th and 17th century developed this historical viewpoint into a natural "law of progress" documented by comparisons between societies, by references to the newly-discovered Indian cultures of North America, and by introspection. From this time can be traced the optimistic conviction of modern thinkers that continued economic development is a possibility, although they have discarded the concept that it is in any way an inevitable law of nature.

The concept of economic development held by the Physiocratic school is best expressed by Anne-Robert-Jacques Turgot. Hildebrand[8] writes that Turgot attributed "all progress . . . to the inevitable advance of knowledge with the accumulation of experience in the course of time." Obviously, this is the same law that Hobbs and Locke proposed. However, Turgot, instead of using this law to justify an authoritarianism or a

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8. Hildebrand, op. cit., p. 15.

powerful government, concluded that since progress was inevitable, governmental interference with the processes of economic life could only slow down the inevitable--and desirable--change. This harmonized readily with Turgot's (and the other Physiocrat's) belief in laissez faire economics which came to be so firmly implanted in economic thinking in the 19th century. Only in the last 25 years or so has this concept of a laissez faire policy being the most suited to economic development come under attack from economists and been generally questioned. Even today it is a potent factor as economists attempt to reshape their thinking about the role of governments in furthering economic development of underdeveloped regions.

The accepted starting point for modern economic theory is usually conceded to be Adam Smith's Wealth of Nations. Certainly it was among the first economic works to be explicitly concerned with the problem of economic development. Indeed, the very title of his work, An Inquiry into the Nature and Causes of the Wealth of Nations, immediately indicates his concern, and, as if that weren't enough, Book III of the work is entitled "Of the Different Progress of Opulence in Different Nations." The book has continued to exert its influence on the thinking of economists to the present time, and for that reason, if no other, deserves careful attention in tracing the growth of concepts of economic development.

This early study into economic development was predicated on the assumption that technological innovation induces economic development. The workhorse of Smith's theory is the division of labor, which, in turn, is made possible through technological innovation. He credits this to three

different circumstances;[9]

> . . . first, to the increase of dexterity in every particular workman; secondly to the saving of time which is commonly lost in passing from one species of work to another, and lastly to the invention of a great number of machines which facilitate and abridge labour, and enable one man to do the work of many.

Smith feels the division of labor is so self-evident that it is "unnecessary to give any example. . . ."[10]

Smith also is among those who would correlate the increase of per capita income with economic development, a problem which has remained with economists to the present. He argues that in the course of development a shortage of labor may develop. The workingmen, therefore, may combine and "break through the natural combination of masters not to raise wages."[11] This, in turn, necessitates an increase in the wages paid and an increase in capital "stock." Therefore, Smith[12] reasons:

> The demand for those who live by wages . . . necessarily increases with the increase of the revenue and stock of every country, and cannot possibly increase without it. The increase of revenue and stock is the increase of national wealth. The demand for those who live by wages, therefore, naturally increases with the increase of national wealth, and cannot possibly increase without it.

The rising level of welfare which Smith credits to increasing division of labor, attributable to technical innovation, occurs in conjunction with capital accumulation and is strictly tied to it. The accumulation of

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9. Adam Smith, An Inquiry into the Nature and Causes of the Wealth of Nations (5th ed.; London: Methuen & Co., Ltd., 1930), Vol. 1, p. 9.

10. Ibid., p. 10.

11. Ibid., p. 70.

12. Ibid., p. 71.

capital is necessary before division of labor can proceed, for when a man produces for exchange, purchases of necessities "cannot be made till such time as the produce of his own labor has not only been completed, but sold."[13] Smith[14] concludes, therefore, it is necessary that:

> . . . there is beforehand stored up somewhere, either in his own possession or in that of some other person, a stock sufficient to maintain him, and to supply him with the materials and tools of his work, till he has completed his product . . . . As the accumulation of stock is previously necessary for carrying on this great improvement in the productive powers of labour, so that accumulation naturally leads to this improvement.

The problem of capital transfers and of credit for international economic development is yet one of the most thorny issues modern economists and those working in the field of furthering economic development have to solve. Smith was the first to see the importance of capital so clearly.

For Smith, this accumulation of capital as the basis for economic development was a process of real saving or new investment in productive factors. (Smith, in common with the mercantilists whom he is disputing, uses the word "stock" in a manner similar to more modern usage of "capital.")

The improvement in individual productivity which Smith felt would follow from innovations would come from new investment only if it was in superior durable goods. Keirstead[15] notes Smith was therefore assuming investment was made because of favorable opportunities arising from

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13. Ibid., p. 258.

14. Ibid.

15. Keirstead, op. cit., p. 71.

innovation, "an assumption which brings his theory of development very close to that of Professor Schumpeter."

Since Smith had Say's law in mind when he was considering new innovations, he did not recognize the possibility of unemployment which might result from a failure of aggregate demand to take the increased production at prices which would stimulate further investment.

Smith did, however, propose another concept commonly suggested in modern discussions of economic development: that higher wages would bring higher levels of consumption. This can be counted as a very forward-looking insight into the economic process indeed, coming as it did a century and a quarter before the development of "mass production." Smith[16] writes:

> Is this improvement in the circumstances of the lower ranks of the people to be regarded as an advantage or as an inconveniency to the society? . . . Servants, labourers and workmen of different kinds make up the far greater part of every great political society. . . . The liberal reward of labour, by enabling them to provide better for their children, and consequently bring up a greater number, naturally tends to widen and extend those limits of the market .

However, along with this statement of increasing markets for manufactured goods, Smith views population, especially of the working classes, as being passive to changes in wealth, not having any independent character, no longer a widely held population theory. Yet he has the germ of recognition for a modern population phenomenon in Europe when he jibes:[17]

> Luxury in the fair sex, while it inflames perhaps the passion for enjoyment, seems always to weaken, and frequently to destroy altogether, the powers of generation.

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16. Smith, op. cit., p. 80.

17. Smith, op. cit., p. 81.

Smith's theory of economic development can be seen to depend on the steady introduction of innovations with capital accumulation, the whole depending on certain natural "laws" governing human action. This sequence, once underway, leads through higher real wages and improved productivity, to a widening of the limits of the market by reason of population growth and entrepreneural risk-taking. Smith's view of society and economic development is thus atomistic, and he employs the famous analogy of the "invisible hand." And, although progress was to be expected, it was not inevitable. Specifically, Smith proposed that it was possible only where the government allowed--even encouraged--the free play of natural competition and industry. For, Smith[18] argues, the merchant:

> By pursuing his own interest . . . frequently promotes that of the society more effectually than when he really intends to promote it. . . . What is the species of domestic industry which his capital can employ, and of which the produce is likely to be of the greatest value, every individual, it is evident, can, in his local situation, judge much better than any statesman or lawgiver can do for him.

Later economists have questioned Smith's theory for its omissions, particularly for its lack of a specific treatment of cycles and for a lack of specific treatment of population change.[19] No longer do they subscribe without reservation to the laissez faire he advocated; in fact they are much concerned about the means by which government, directly and indirectly, can encourage economic development through its policies and actions. Yet they owe to him a great debt for his early and clear statement concerning economic development as a result of technological innovation and

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18. Smith, op. cit., p. 421.

19. See Keirstead, op. cit., who also criticizes it for failing to explain the source of innovation.

the action of such innovation through increasing real wages upon the general level of welfare.

T. R. Malthus, best known for his Essay on the Principle of Population, was clearly concerned with the problems of economic development. Although his Essay helped tag economics as "the dismal science," his early statement has been a starting point for constructive thinking in the area of population. It has also provided the basis for the far more optimistic viewpoints which have played such an important part in modern thinking on economic development in underdeveloped regions where population poses an obvious problem.

Malthus, himself, in his second edition of 1803 modified the rigidity of his treatment in the first edition of 1796. Postulating his arithmetic growth of food and the tendency toward geometric growth in population, he asserts "a strong check on population, from the difficulty of finding food, must be constantly in operation." The effect will be "misery, or the fear of misery" felt by a "large portion of mankind."[20]

Since Malthus felt it was useless to try to raise the rate of food increase to keep up with the population, he was concerned with the means of keeping population down. The largest bulk of his 1803 edition of the Essay he devoted to an analysis of the checks operating in various parts of the world, and of the kinds of checks which could be expected. Later population theorists have criticized his work on the grounds that he failed to foresee the tremendous strides agricultural technology could make,

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20. T. R. Malthus, An Essay on the Principle of Population (London: J. Johnson, 1803), p. 3.

that he failed to recognize the extent of the influence of his "luxury" check on population, and that he failed to recognize people are not only consumers of food and other goods, but are also a resource with which to produce.

In view of Malthus' concern with overpopulation, it is interesting to note he was also one of the earliest economists to recognize the possibility of underconsumption.[21] He wrote his friend Ricardo:[22]

> We see in almost every part of the world vast powers of production which are not put into action, and I explain this phenomenon by saying that from the want of a proper distribution of the actual produce adequate motives are not furnished to continued production. . . . I distinctly maintain that an attempt to accumulate very rapidly, which necessarily implies a considerable diminution of unproductive consumption, by greatly imparing the usual motives to production must prematurely check the progress of wealth. . . .

"If only Malthus, instead of Ricardo," laments Keynes,[23] "had been the parent stem from which nineteenth-century economics proceeded, what a much wiser and richer place the world would be today!"

Noting Malthus' early concern with the problems of underconsumption coupled with his established reputation for being an authority on population theory, it is interesting that he did not evolve an explicit theory of economic growth postulating population as the exogenous cause.

His opinions concerning economic development are put forth in his Principles of Political Economy, often overshadowed because of the

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21. See John Maynard Keynes, The General Theory of Employment, Interest, and Money (New York: Harcourt Brace and Company, 1936), p. 362.

22. T. R. Malthus, letter to David Ricardo dated July 7, 1821, quoted in John Maynard Keynes, Essays in Biography (New York: Harcourt Brace and Company, 1933), p. 142.

23. Keynes, Essays in Biography, p. 144.

importance of his Essay on Population. His Principles, Book II, consisting of some 120 pages, is entitled "On the Progress of Wealth" and deals specifically with the problems of differential economic development among nations. He writes:[24]

> There is scarcely any inquiry more curious, or, from its importance, more worthy of attention, than that which traces the causes which practically check the progress of wealth in different countries, and stop it, or make it proceed very slowly, while the power of production remains comparatively undiminished, or at least would furnish the means of a great and abundant increase of produce and population.

Modern economic theorists, inquiring into the reasons underdeveloped nations have made no more economic progress than they have, would agree with Malthus' statement.

Malthus proceeds directly to a consideration of the part he conceives population plays in stimulating economic development:[25]

> That a continued increase of population is a powerful and necessary element of increasing demand, will be most readily allowed; but that the increase of population alone, or, more properly speaking, the pressure of population hard against the limits of subsistence, does not furnish an effective stimulus to the continued increase of wealth is not only evident in theory, but is confirmed by universal experience. If want alone, or the desire of the laboring classes to possess the necessaries and conveniences of life were a sufficient stimulus to production, there is no state in Europe, or in the world, which would have found any other practical limit to its wealth than its power to produce. . . .

Malthus then continues to discuss the stimuli "to the continued Increase of Wealth" of "Accumulation, or the Saving from Revenue to add to

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24. T. R. Malthus, Principles of Political Economy (London: William Pickering, 1836), p. 309. (Reprinted as Number 3 in the Series of Reprints of Scarce Works on Political Economy of the London School of Economics and Political Science, University of London, 1936.)

25. Ibid., p. 311.

Capital," of soil fertility, and of "Inventions to save Labour." He then emphasizes the need for a "union of powers of production with the means of distribution, in order to ensure a continued Increase of Wealth."[26] Essentially his argument leads to the proposition that an unequal distribution of wealth does not lead to growth. He concludes:[27]

> Production and distribution are the two grand elements of wealth, which, combined in their due proportions, are capable of carrying the riches and population of the earth in no great length of time to the utmost limits of its possible resources; but which taken separately, or combined in undue proportions, produces only, after the lapse of many thousand years, the scanty riches and scanty populations which are at present scattered over the face of the globe.

Modern thinking on underdeveloped regions more and more has come to regard extreme inequality in the distribution of wealth as an important obstacle to economic development, both in terms of lack of incentive, and in terms of a lack of adequate markets, concepts very nearly the same as those first proposed by Malthus.

It is interesting to note that one of the inequalities of distribution which most concerned Malthus was concentration of ownership of land. He notes that:[28]

> Thirty or forty proprietors, with incomes answering to between one thousand and five thousand a year, would create much more effectual demand for the necessaries, conveniences, and luxuries of life, than a single proprietor possessing a hundred thousand a year.

Malthus attributes a large part of "that extraordinary increase in exchangeable value, which has so distinguished the progress of the

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26. Ibid., p. 361.

27. Ibid., p. 371.

28. Ibid., p. 374.

establishments in North America" to widespread distribution of land ownership.[29]

Malthus recognized in the concentration of land ownership a cause of lack of effective demand and of inadequate markets. These still are considered important effects in the viewpoint of modern agricultural economists concerned with agrarian reforms in underdeveloped countries. However, Malthus did not recognize at the same time the importance of other obstacles to the "progress of wealth" caused by a concentration of land ownership--obstacles such as lack of incentive and poor production techniques.

Malthus did recognize that fragmentation could also be an obstacle to economic development, cautioning that "all the great results in political economy, respecting wealth, depend on proportions."[30] He points out:

> With an excessive proportion of small proprietors both of land and of capital, all great improvements on the land, all great enterprizes in commerce and manufactures, and most of the wonders described by Adam Smith as resulting from the division of labour, would be at an end; and the progress of wealth would be checked by a failure in the powers of supply.

Malthus feared the newly established Napoleonic Code in France might give rise to undue fragmentation. He cautions:[31]

> . . . if such a law were to continue permanently to regulate the descent of property in France; if no modes of evading it should be invented . . . there is every reason to believe that the country, at the end of a century, will be quite as remarkable for its extraordinary poverty and distress, as for its unusual equality of property.

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29. Ibid., p. 373.

30. Ibid., p. 376.

31. Ibid., p. 377.

Malthus can be seen to have made a distinct, positive contribution to the idea of optimistic progress which came to dominate men's minds in the 19th century and is the basis for much of our thinking on economic development today. His theory of economic development deals more with the problems of underconsumption than with population as a direct factor either in stimulating development or retarding it. His most widespread influence in modern thinking about underdeveloped areas certainly comes through his Essay on Population which is the starting point for present-day population theory just as Adam Smith is the starting point for modern economic theory. The other important concept Malthus contributed to modern economic thinking--the concept of underconsumption--has exerted its influence in a round-about manner, probably having its most important effect in its influence on Keynes and through him on recent thinking.

If Smith and Malthus tend to lay little emphasis on population as a cause of economic change, Malthus' friend David Ricardo, seeing the unhappiness left by the early stages of the industrial revolution and impressed by the growth of the new industrial towns, gave population a major place in his theory of economic development.

Ricardo believed that the economic situation determined the direction of population change and that population change, in turn, governed and limited the development of welfare. Using an elaborately detailed numerical example on the cultivation of wheat, he demonstrates that as population increases the monetary wages of labor will increase, but the real wages decrease.[32]

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32. David Ricardo, The Principles of Political Economy and Taxation (London: J. M. Dent & Sons, Ltd., 1911), p. 58.

This comes about, Ricardo asserts, as a result of the diminishing returns to land which forms the basis for his whole economic reasoning. Any improvement in technique would increase the demand for labor; but the inevitable consequence would be an increase in population. Since the increased demand created would have to be satisfied by resorting to less and less productive agricultural land, the real position of the laborer would deteriorate.

Ricardo recognized the place of technical innovation in economic development;[33]

> The natural price of all commodities, excepting raw produce and labour, has a tendency to fall in the progress of wealth and population; for though, on one hand, they are enhanced in real value, from the rise in the natural price of the raw material of which they are made, this is more than counterbalanced by the improvements in machinery, by the better division and distribution of labour, and by the increasing skill, both in science and art, of the producers.

But population increases as the wealth of the society grows and soon forces the laborer back to the level of subsistence;[34]

> . . . for the land being limited in quantity and differing in quality, with every increased portion of capital employed on it there will be a decreased rate of production, whilst the power of population continues always the same.

Despite his continued friendship with Malthus, Ricardo seems to have missed the concepts of aggregate demand which Malthus was trying to develop and the importance this might have on stimulating investment and economic growth. Missing this emphasis, combined with an uncritical acceptance of Say's law, meant that Ricardo diverted the bulk of economic

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33. Ibid., p. 52.

34. Ibid., p. 56.

inquiry in the decades following him from channels which might have yielded more meaningful explanations of the process of economic development. And he adds later:[35]

> A full understanding of the nature of innovation, of the different kinds of innovation and their differing role in economic development would have led to a complete revision along Malthusian lines of the population thesis as the basic cause of change. Ricardo leaves, however, simply an explanation unintegrated with his general theory, of labour-saving machinery reducing the demands for labour and so diminishing labour's real share of the final product.

Ricardo's tremendous influence among economists of the latter part of the 19th century turned concepts of economic development away from the direction Smith and especially Malthus had pointed. Within the past few years more and more modern economists dealing with economic development are realizing they have more affinity with Malthus than Ricardo.

John Stuart Mill, whose interest in economics was very warm and human, believed in a "law" of progress. He characterized the historical development of humanity as being "a trajectory of progress, in lieu of an orbit or cycle."[36] The really crucial point in the improvement of human welfare, he maintained, was:[37]

> . . . the state of knowledge which at any time is the limit of industrial improvements possible at that time; and the progress of industry must follow, and depend on, the progress of knowledge.

In this, Mill anticipated an emphasis that was to grow strongly as modern agricultural economists realize more and more that an effective

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35. Keirstead, op. cit., p. 84.

36. John Stuart Mill, A System of Logic (London: Longmans, Green, Reader, and Dyer, 1868), Vol. 2, p. 509.

37. Ibid., p. 524.

dissemination of known information among cultivators is a crucial point in furthering economic development in underdeveloped regions.

Mill's human orientation led him to an optimistic viewpoint of progress. Although he separated "progress" from "improvement," he nonetheless felt that "the general tendency is, and will continue to be . . . one of improvement; a tendency towards a better and happier state."[38]

But when Mill begins to deal with economic development in his Principles of Political Economy his optimism is not nearly so unbounded. Mill chose the ideal of Ricardo when presenting what he thought was the outlook of society from the standpoint of economic development. He writes:[39]

> Agricultural improvement, then, is always ultimately, and in the manner in which it generally takes place also immediately, beneficial to the landlord. We may add, that when it takes place in that manner, it is beneficial to no one else. When the demand for produce fully keeps pace with the increased capacity of production, food is not cheapened; the labourers are not, even temporarily, benefitted; the cost of labour is not diminished, nor profits raised. . . . The economical progress of a society constituted of landlords, capitalists, and labourers, tends to the progressive enrichment of the landlord class; while the cost of the labourer's subsistence tends on the whole to increase and profits to fall.

Mill thus perpetuates the viewpoint advanced by Ricardo concerning the possibilities of agrarian improvement. He is also open to the same criticism of failing to recognize the potentialities of increased production.

However, Mill did have a better concept of the possibilities for political or governmental action to promote economic development than the

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38. Ibid., p. 509.

39. John Stuart Mill, Principles of Political Economy (London: Longmans, Green and Co., 1909), p. 723.

earlier economists. When writing of the "Probable Future of the Labouring Classes" he suggests there "is no reason to believe the prospect other than hopeful" provided the labouring classes "can be made rational beings" and use their increasing political power wisely, a political development which has come to be of much importance in the modern world.[40]

Reaction to Classical concepts

In the 19th century, Karl Marx stands almost alone in being an economist whose primary interest was to postulate a theory of economic development and social change rather than an analysis of prices, profits, and rent. Marx had an influence on modern Western economists so diverse in viewpoint as Keynes and Schumpeter which makes his viewpoint important in understanding present concepts of economic development. But if for no other reason, an understanding of Marx is important because of the influence his work has had in laying the foundation for the authoritarianism in the Soviet Union and the tension Soviet policies create in the world.

Hildebrand[41] suggests that Marx can be more easily understood if his works are seen as presenting not one but two separate theories of change. He was concerned, on the one hand, with the formulation of an all-embracing law of human history, from its origins to its "inexorable destiny." On the other hand, he was involved in a specific analysis of the "natural history" of the capitalistic phase of the supposed general law of succession,

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40. Ibid., p. 757.

41. Hildebrand, op. cit., p. 21.

and arrived at an elaborate system of economic theory as well as a larger historical scheme.

Marx's general theory of history--which amounts to a general theory of economic development--revolves around the introduction of technical innovation--specifically the introduction of the division of labor into tribal communism. From there onward, the sweep of economic development can be inevitably forecast in terms of the successive development in the "mode of economic production." From tribal communism comes class society (ancient, feudal, and then capitalistic) and finally, industrial communism, to be ushered in generally, Marx believed, by the dictatorship of the proletariat and by violent revolution. Once the mode of production of a society was fully understood, one could proceed to a static analysis of the whole society, including major ideas, religious beliefs, political organization, laws, and customs.

Two elements in Marx's concept of progress were unique: his emphasis on the dialectical nature of economic change which can be traced to the influence of Hegelian philosophy on his thinking, and his conviction that class struggle was the immediate factor that effected transitions between the great historical epochs he saw as inevitable. Economic development could, he admitted, take place gradually within a given social system, but in its cumulative advance would ultimately give rise to a crisis in which violent and rapid transformation was usually likely.

Marx postulated a labor theory of value, in which the capitalistic employer was able to retain all "surplus value" between the subsistence wage and the price for which he could sell the product. But the system is subject to recurrent crises leading to the inevitable class war.

Later economists have found many flaws in Marx's economics (not to mention his concept of historical development). They point out weaknesses in his theories of value and capital; his treatment of innovation; and his failure to allow for institutional developments such as labor unions (or even labor governments), anti-trust legislation, co-operative movements, and progressive income tax. But perhaps, as Newman[42] comments, more orthodox economists have devoted themselves to "elegant elaborations of minor problems" which avoid the "uncongenial realities" of life about us. Although Marx may not have had a precise nor highly developed framework of economic analysis, "later economists with backgrounds as diverse as Keynes, Schumpeter, Sombart, Veblen, and Mitchell owe far more to Marx than to his academic predecessors." These men, of course, did not accept Marx uncritically. Yet because Marx generally kept his perspective concerning the relative importance of economic problems, later economists have found many hints leading to areas of inquiry.

Thus today the compelling press of circumstances forces economists to concern themselves with the "uncongenial realities of the real world" and to bring their thinking to bear on the problems of underdeveloped regions.

Outside this main current of economic theory are two Americans who were very much concerned with economic development. Henry George saw economic development as leading to increasing concentration of land in the hands of landlords who could exact increasing rent with the development of society. In his Progress and Poverty[43] he proposed his famous single-tax

42. Philip Charles Newman, The Development of Economic Thought (New York: Prentice-Hall, Inc., 1952), p. 170.

43. Henry George, Progress and Poverty (New York: The Modern Library, 1929), 571 pp.

theory to enable the state to appropriate rent for the advantage of all. Today, George is mainly a figure of historical interest recognized for his early concern with problems of overall economic development.

Somewhat later Thorstein Veblen, perhaps the most original economist to come from North America, proposed a theory of economic development in his The Theory of Business Enterprise and other works which stressed change and movement, and postulated a conflict between two opposing forces within the economy. These forces may be roughly characterized as "business" and "industry." Industry concerns itself with production of goods, while business is concerned with making profits. Businessmen attempt to restrict increased production by industry to maximize net revenue, which Veblen termed "capitalistic sabotage." He felt further economic development would occur as the non-business members of society evolved a new set of economic institutions in which engineers and technicians would have more influence. Freed from the interference and restrictions of speculators and profit-makers, industry could then harness the "inordinate productivity of the modern machine process" to raise the material welfare of society.[44]

Since economic theory in this country today stems almost entirely from the British and European concepts proposed at the same time as Veblen was writing, his influence is small, and interest in his theory of economic development mainly historical.

Implied theory of neo-Classical economists

Although the economists from Smith to Marx had fairly well-developed

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44. Thorstein Veblen, The Theory of Business Enterprise (New York: C. Scribner's Sons, 1923), 400 pp.

theories of economic development, and although the genesis of much of current thinking can be traced directly to their writings, their viewpoints have had more of an indirect than a direct influence on modern economic thought. On the other hand, the neo-Classical school in which may be included such important figures as Marshall, Walras and the members of the Austrian school have had a great influence on thought about economic development even though they never very explicitly stated their theory of development.

The neo-Classicists represent a remarkable outburst of energy in the theoretical statement of economic problems. It was characterized by the almost independent discovery of marginal analysis by Jevons, Walras, and Menger which came to be the most important tool of the group as a whole. Unfortunately, however, the attention of these economists was turned largely to the theory of the individual or of the firm. The new tools of analysis combined with the intellectual climate of the period gave rise to little consideration of the problem of economic development as a whole in the tradition of formal economic theory up until that time, and to virtually no consideration of the theory underlying consideration of economic development in underdeveloped regions.

The importance of the neo-Classical writing on current economic thought can hardly be over-emphasized. Even so, the full appreciation of their system did not come until Keynes challenged it.

Since the present concern is with the viewpoint of the neo-Classical economists on economic development, their system is here expressed in aggregative terms, something the neo-Classicists would not be likely to do. Nonetheless, this is common in current literature, arising out of a desire

to compare their thinking with that of Keynes.

Following Duesenberry,[45] the system can be viewed by first taking a static system of the Walrasian type. This is a competitive system in which there is no saving and no investment. Households own land and capital, and supply labor; they also buy consumption goods. The whole of the land and capital is always used, regardless of price levels. The amount of labor service offered by the households and the amount of consumers' goods bought by them depends on relative prices of various consumers' goods services, capital goods services, land services, and labor services. The demand for consumer goods depends on the prices of all goods and on the price of all productive factors. The supply of factors can likewise be seen as depending on the prices of consumption goods and production factors. The amount of each factor used per unit of output of a commodity depends on the relative prices of the different productive services, and the price of each consumers' good equals its cost which in turn equals the sum of the values of the productive services required to produce it. The whole system is relative, and all prices can be expressed in terms of a numeraire. In this system no economic development of any sort occurs.

If capital formation is introduced into this system in the manner in which the neo-Classicists viewed it, their implied theory of economic development is shown. Each type of capital good can now be produced. The demand for consumers' goods and the supply of productive factors are not

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45. James S. Duesenberry, "Some Aspects of Economic Development," Explorations in Entrepreneural History, Vol. 3, No. 5 (December, 1950), pp. 63-102.

affected. However, in considering the use of factors, the factors used in producing the additional capital have to be added to those used in producing the consumers' goods. To the production equilibrium conditions must be added the consideration that the amount of production factors used in producing capital goods depends on the relative prices of different productive services. And finally, the price of each capital good equals its cost. An interest rate appears because the neo-Classicists postulated that choices between consumers' goods and saving depend on the interest rate. Moreover, everything consumers do not spend on consumption goods they spend one way or another on capital goods.

The dynamic character which can be read into the neo-Classical system viewed in this manner arises out of the necessity that capital goods must be produced in such amounts as to satisfy the conditions that on the one hand the prices for capital goods like those of any other products must equal their production costs, while on the other hand capital goods are productive factors and their prices must be such as to equate the demand for them to the available supply. With a given amount of labor and no technical innovation, interest rates must decline with continued accumulation of capital.

The manner in which investment decisions are formulated and the role of expectations in the neo-Classical system is but little discussed. It is assumed that every entrepreneur has perfect knowledge of the future, and that adjustments are instantaneous.

The neo-Classical economists were perfectly well aware that the real world did not operate as smoothly as the system they hypothesized. A wealth of business cycle theories explaining deviations from the path

described above attests to that. But they were of the opinion that long term equilibrium unemployment was impossible, and that the system tended toward progressive economic development through continuous investment, geographic expansion, and technical innovation. And in late 19th century Great Britain, Western Europe, and North America there was little evidence they were wrong. That they made a great many assumptions about institutions and individual characters, just as they did about a constant flow of investment was not evident to them, or else were considered as universal features of society. They were not concerned to explain how the system could be started toward economic development from a virtually static low level in the face of imperfections. And, lastly, they were but very slightly concerned about the problems of underdeveloped regions except as they related to Europe and North America.

But the framework of firm theory and the theory of economic development which it implied still forms the basis for modern economic thinking, and only now are the restrictive assumptions being relaxed in an attempt to find fruitful theoretical channels to guide economic development efforts in underdeveloped countries.

Innovation theory of economic development

Little attention was paid to economic development theory as such from the time of Marx until the nineteen thirties.

A renewed interest in the overall problems in economic development came with the problems introduced by the economic distress of the great depression.

However, well before then, J. A. Schumpeter suggested a theory of economic development resting on technological innovation. His theory was

first published in German in 1912, but gained little attention until a revised English edition was published in 1934.[46] Schumpeter was concerned with the morphology of economic development. He defined economic growth, according to a recent statement by two students, as "changes in population, and in total savings and accumulations of households and firms respectively."[47]

Schumpeter's system is admittedly in the neo-Classical tradition, as Duesenberry[48] points out, but it contains three important special features, "(1) his theory of saving; (2) his theory of the interest rate; and (3) his idea of the process of capital formation."

Schumpeter's view of saving is unique in economic literature. He asserts that the only voluntary saving is done by entrepreneurs. They save out of their profits in order to repay bank credit. This surprising proposition arises from Schumpeter's definition of savings not as the whole difference between income and consumption, but as that part of the difference which is intended as a permanent addition to assets. Thus residential housing, educational investments, and accumulations for future purchases or retirement are not savings in Schumpeter's viewpoint.

Schumpeter's idea of the process of capital formation is that all investment is financed out of bank loans, and since no one but the entrepreneur saves, the orthodox conception of interest as that rate which

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46. J. A. Schumpeter, The Theory of Economic Development (Cambridge, Mass.: Harvard University Press, 1934), 255 pp.

47. Richard V. Clemence and Francis S. Doody, The Schumpeterian System (Cambridge: Addison-Wesley Press, Inc., 1950), p. 15.

48. Duesenberry, op. cit., p. 90.

will equate savings and investment is no longer necessary. Rather, interest is what the banking system makes it.

Finally, in the neo-Classical (and Keynesian) system the demand for investment arises from a waiting group of projects to be undertaken. Only a limited amount of funds and energy keep all these projects from being undertaken simultaneously. Schumpeter, on the other hand, asserts that exploitation does not take place in response to favorable conditions, but as a result of the vision and imagination of an innovator or entrepreneur. (Changes in economic organization are considered as innovations in his system.) Thus investment awaits the appearance of a skilled innovator, and not just anybody will do. They are out for startling changes on borrowed funds which, if successful, create whole new enterprises and make fortunes at a single stake. Duesenberry neatly sums up the difference,[49] "Marshallian fortunes are made from compound interest, while Schumpeterian ones are made from capital gain."

Postulating a "stationary equilibrium," Schumpeter examines the causes that generate a departure from this equilibrium over time. The system is perfectly competitive and there are no indivisibilities; the valuation of factors is based on marginal productivity imputations, though some emphasis is put on production problems. Capital is resolved into land and labor. There are no surpluses when all costs are opportunity costs, and hence no profits, and interest also disappears because of perfect knowledge of all future markets and perfect adjustments immediately achieved.

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49. Ibid., p. 91.

Into this equilibrium of "synchronized adjustment" an innovation is introduced. Schumpeter in his model is not interested in the source of the innovation, except that it is exogenous. The form of the advance is a technical innovation, which is sufficiently broad in its definition to admit new methods of producing old goods, new goods, new materials, and new sources of materials, new uses for old materials, new skills and techniques, including techniques of organization, administration, exchange, merchandising, and financing.

The innovation is dealt with as a new production function introduced by an entrepreneur with a view to making money profits. Profits are thus a dynamic concept only. In its simplest form, the innovation is seen as causing first an increase of prosperity and then a recession succeeded by the appearance of a new equilibrium. This new equilibrium has both greater output and a different composition of output.

These cost-reducing innovations are progressive in the sense that they enable society to produce more goods at less expense of effort. The process works itself out with overlapping cycles resulting from innovation. Schumpeter's viewpoint is optimistic, but he tends to understate the seriousness of depression, and to ignore the human miseries and sufferings which accompany them.

Keirstead criticizes this system for its over-simplification which, while certainly not preventing Schumpeter's model from being a "valuable analysis," is still "distinctly limiting, and precludes the possibility of a comprehensive theory of economic change." A more serious charge, however, is that Schumpeter was "profoundly uninterested" in policy and its interrelationship to change and so does not develop in his systematic

writing the interrelation between policy and the dynamic process of the economy.[50]

The very scope of the theory with its concomitant lack of specific criteria for judging progress limits its usefulness as a practical tool for promoting economic development. Nonetheless, it has served to focus the attention of economists upon the importance of innovation in an economy, and an indication of the kind of effects on the economy which must be contended with.

Investment theory of economic development

The publication of John Maynard Keynes' The General Theory of Employment, Interest, and Money[51] in 1936 sparked a revival of interest in economic development among professional economists. Keynes was dealing with an economy well along in the course of industrialization and economic development as the West knows it; his theory has less direct application to problems of underdeveloped nations. Yet the fertile intellectual stimulation and the new analytical tools his proposals provided have resulted in much thinking directly applicable to the problems of underdeveloped areas.

Keynes' proposal involves a change from the Classical view that savings and investment are brought to equality via changes in the rate of interest to the new view that savings and investment are brought to equality via changes in the national income. New investment in capital assets is a more or less autonomous and unstable variable that does not necessarily rise when income rises or fall when income falls. Saving is

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50. Keirstead, op. cit., p. 97.

51. Keynes, The General Theory of Employment, Interest, and Money.

viewed as a function of national income rather than of the rate of interest, such that when income increases, savings will increase in a regular fashion. Yet savings cannot exceed investment, because as soon as savings tend to exceed investment, income tends to fall; equilibrium is reached only when realized savings are equal to actual investment.

The mechanism of determining the rate of interest, which in turn determines the amount of investment, is Keynes' principal contribution to the formal theory of economic development. He suggests that liquidity preference arising from the transactions, precautionary, and speculative motives determines the amount of money available in the economy. Liquidity preference is affected by level of income and rate of interest. Liquidity preference prevents the interest rate from falling beyond a certain point (which he estimated at some 2 per cent) and can be the cause of an insufficient amount of investment to maintain a given level of national income. Income will have to fall until a low level of employment and output is reached which will result in a level of income at which the equation between investment and what people wish to save is achieved. An unemployment equilibrium is thus shown to be possible, which the Classical system did not allow for.

This new orientation has led to a concern among some economists with economic growth as the basic necessity of continuing economic stability. Pilvin[52] characterizes two approaches which have grown out of this concern about economic development within the Keynesian framework. Both

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52. Harold Pilvin, "A Geometric Analysis of Recent Growth Models," American Economic Review, Vol. 42, No. 4 (September, 1952), pp. 594-599.

approaches utilize the Keynesian short-run investment analysis and the propensity to save. Both are concerned with maintaining the equality of saving and investment as the economy grows. The two differ in their treatment of investment. One centers around the accelerator, while the other employs the capital co-efficient, the ratio between capital and capacity. The accelerator is a "behaviour co-efficient" and emphasizes the response of entrepreneurs to changes in their income, while the capital co-efficient is a "technological co-efficient" and stresses the effect on capacity.

Recent commentary on Keynesian economics from economists in underdeveloped countries has tended to assert that many of the concepts of Keynesian analysis are not applicable to underdeveloped economies. Rao[53] has pointed out a number of these. In underdeveloped countries, he suggests, the secondary, tertiary, and other increases of income, output, and employment as a result of investment do not operate despite the high marginal propensity to consume. Secondly, because of the rigidities of economic organization, primary producers cannot increase their output in proportion to their income. This is suggested to mean that in effect the income multiplier is higher in money terms than in real terms. Thirdly, since the marginal propensity to consume is high, Rao argues that a large proportion of any increase in income will be directed toward food and will reduce the marketable surplus of food grains with serious effects on non-agricultural prices. Thus, it is suggested, the forces operating in

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53. V. K. R. Rao, "Investment, Income and the Multiplier in an Under-Developed Economy," Indian Economic Review, Vol. 1, No. 1 (February, 1952), pp. 55-67.

underdeveloped economies lead neither to higher income nor to higher employment. And lastly, the process of economic development is conceived as taking place on two levels: development within a given structure, and development by moving from a lower to a higher stage of economic development. The Keynesian analysis is held to be valid only for the development within a given structure, while the aim of underdeveloped nations is to move from one structure to a higher one. Picking up this criticism, Singh[54] criticizes Keynesian analysis on the grounds of being a special case not applicable to the actual economic conditions which exist in underdeveloped areas. Instead, he suggests, "industrialization is essentially a matter of economic organization" and not centered around the Keynesian "spiral of saving and investment."

Increasing concern with such means of encouraging economic development as utilizing underemployed labor and agrarian reform in part reflects Singh's criticism. Yet even in attempting to utilize instutional reorganization to foster economic development, economists are indebted to Keynes for his tremendous stimulation to economic thought and for his contribution of new concepts as tools of analysis. Although his analysis may not be directly applicable to formulating a theory of economic development relevant to underdeveloped areas, it is being adapted and built upon. It is likely any work leading toward a theory of economic development in the immediate future will have benefited from the availability of Keynesian analysis and concepts.

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54. V. B. Singh, "Keynesian Economics in Relation to Under-Developed Countries," Science & Society, Vol. 18, No. 3 (Summer, 1954), pp. 222-234.

Necessary Modifications of Basic Economic Assumptions

The economic and social disorganization and unrest following World War II focused the attention of workers in the field of economics on the problems of economic development in underdeveloped areas. Within the profession, agricultural economists have looked to their own specialized interest and theory to find what information and research might be marshalled.

Most of this recent re-examination of the problems involved in economic growth has shied away from elaborating any general theory of economic development. Rather have economists tried to single out particular indicators of economic progress, to discuss turning points crucial to economic development, and to re-assess the applicability of existing economic theory and the assumptions upon which it is based. No general theory has yet emerged which meaningfully explains the process of economic development in underdeveloped areas, and no economist pretends to have anything more than some interesting guideposts and a very pressing need.

Recognizing there is no theory, Schultz[55] suggests some may think that "it would be prudent to leave well enough alone" and, in all events, "existing knowledge does not provide a satisfactory basis for improving" the process of economic development.

This viewpoint, obviously, cannot be allowed in the face of the urgency of the need for economic development, as Schultz and other leading economists well recognize.

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55. Schultz, op. cit., p. 269.

Another objection to the attempt to understand the processes of economic development theory more fully revolves around the assertion that any attempt to deal in the theory of economic development necessarily involves such diverse and unmanageable considerations as to be either wholly useless, or, at best, imprecise. Long[56] answers for most, however, when he replies, "better to lose precision than to lose relevance."

As a starting point for thinking about economic development, Schultz[57] suggests three statements about activities having economic attributes:

> 1. There is a class of activities in the community which have economic attributes and which require organization.
> 2. People in the community are not indifferent with regard to the way in which these activities are organized.
> 3. There are alternative forms of organization and none of these is achievable without effort, that is, inputs are required to establish and maintain any given organization.

The interests of economists in economic development at the most general level, then, are directed toward these organizational alternatives. Generally, they are interested because by some standard of evaluation the present situation falls short of the goals established. To narrow the gap, some sort of change will be necessary. In agricultural nations the changes designed to promote improved economic conditions and to promote economic development will most probably take the form of agrarian reforms. And one particular aspect of agrarian reform, "land reform," is sometimes singled out in even the most cursory examination as being obviously a

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56. Long, op. cit., p. 730.

57. Schultz, op. cit., p. 249.

potential source of fruitful results. Galbraith[58] emphasized this by writing:

> As to the importance of land reform in many of the underdeveloped countries of which we are talking there can be no doubt. It is a prime requisite of social stability and of progress in agricultural methods and technology.

In attempting to bring the existing body of economic theory to bear on the problem of economic development (and even on the problem of elaborating a theory of economic development), economists have recognized that the assumptions of existing theory must often be relaxed, discarded, or substantially modified. Certain of the concepts and assumptions which allow a simplification or a more exact application of existing theory to Western conditions are not applicable in the underdeveloped nations and in areas where economic development must take place in a different cultural setting. Long writes:[59]

> What is needed, if our work is to be relevant to economic development, is for economic theory to break through its shell of restraining assumptions which prohibit its functioning at the most needed point.

A number of the assumptions and concepts relevant to the consideration of the place of agrarian reform in overall economic development have been examined and their applicability reassessed.

Underlying philosophy

One group of assumptions to be examined might be termed the assumptions of underlying philosophy. Much of the unrest from which demand for economic development arises is found in underdeveloped nations. In those underdeveloped nations which are in Asia, people have seen the kind of

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58. Galbraith, op. cit., p. 695.

59. Long, op. cit., p. 730.

material change economic development has brought to Europe and North America. With this demonstration before them, they have come to accept, too, some of the belief in progress which has so long characterized Western civilization and so strongly influenced Western thinking about economic development. That this Eastern belief in progress has grown while the West has become less and less sure of the inevitability of continued progress in economic development is not, perhaps, as unfortunate as it may seem. The idea of progress as an inevitable "law" dominated European thought until World War I. Since then, however, the stress of events has led to a return of doubt. No longer is there any search for general laws of progress in the West; instead, attention is turned to attempts to understand those conditions which enable progress to take place.

One of the results of this falling away of confidence in universal laws of progress and attention being turned to more empirical and workable theories is, of course, the current attempt to improve understanding of the processes of economic development. And the fact that the West has replaced its faith in laws of progress with a belief that progress can come as the result of deliberate action has paved the way for more fruitful co-operation with those people in Asia and other underdeveloped areas who have now come to believe that progress is possible for them. A common meeting ground of philosophical assumptions has thus been formed. The belief in both the West and in underdeveloped areas that progress in economic development can be achieved by careful planning and well-directed action has been the background against which economists have considered the theory of economic development, and against which agricultural economists have considered agrarian reform.

Along with this belief in progress has been recognized a perhaps even more fundamental attitude--which very probably could be chalked up to human nature itself: people prefer "more" material goods to "less" or even the same amount. The demand for more has been mounting.

Economic man

Another group of the assumptions of economic theory which have to be modified in thinking directed toward economic development and the place agrarian reforms can play in it might be termed those assumptions relating to Adam Smith's "economic man." Although economic theory for some time has recognized the importance of non-economic motives in human action and their effect on economic decisions, in the West consequences arising from a choice among economic alternatives can be more clearly foreseen than in most underdeveloped countries. A higher level of living in more developed nations, combined with more confidence in the probable success of new techniques and more experience in dealing with new techniques, has made technological change quite acceptable in more developed regions. The penalties attached to the uncertainty which accompanies use of new techniques (including new organizational methods) are far less severe in areas where individuals have a fairly high standard of living and failure may mean only a little less of luxury goods. In underdeveloped areas, and in particular among rural people, the penalties attached to the failure of new techniques may be fatal.

In discussing technological advancement in underdeveloped areas, DeGraff[60] makes the point succinctly:

60. Herrell DeGraff, "Some Problems Involved in Transferring Technology to Underdeveloped Areas," Journal of Farm Economics, Vol. 33, No. 4, Pt. 2 (November, 1951), pp. 697-705.

> The major part, although certainly not all, of the farmers of the less developed areas operate essentially to feed their families directly from their farms rather than to sell in the market place. Profit is not their motivation nearly so much as survival. Their little crops of basic food stuffs are their very existence. They know that if they do not harvest they will not eat. Thus, they seek not the biggest crop but the surest crop. Their most haunting fear is that things will get worse, and to their way of thinking a change in their production methods may have precisely that result. We must recognize that their thought is not so much: "If it was good enough for grandfather it is good enough for me." Much more nearly it is: "Father and grandfather, and the generations before them, each survived by doing it this way. Thus, I am here. If I do things the same way, I will survive--and my children after me, if only they will follow the time-proven methods." Vastly more generations of men have been stimulated by this motive than by black ink in an account book.

If agrarian development is to occur under circumstances such as these (which are not uncommon in underdeveloped areas), something more than merely an "economic man" will have to be postulated. In areas where levels of living are only very slightly above the subsistence minimum, agrarian reforms directed toward economic development will have to recognize change can occur only where the uncertainty a new technique will fail to be as productive as the former one can be removed. With this assurance, technological change can be undertaken and economic incentives can be mobilized to promote economic development.

Entrepreneural ability

The neo-Classical theory of the firm assumed that skilled entrepreneurs would be available to take advantage of every economic opportunity. That is not to say they failed to recognize the unreality of the assumption; however, the unreality becomes of much more importance in dealing with the economic development of underdeveloped regions than it was in dealing with 19th century Europe and North America. Schumpeter

recognized that entrepreneural ability is not everywhere abundant, even in more advanced areas, and laid great stress on the importance of a few enterprising entrepreneurs.

The more orthodox theory of the firm and even Keynesian analysis assumes entrepreneural ability to be available, although more and more attention is given to its extent. On the level of practical action, agricultural economists have constantly urged such means to improve entrepreneural skills as farm management extension education.

The problem of entrepreneural ability becomes acute in dealing with economic development of underdeveloped countries. In fact, much of the work in various international aid programs has been directed toward transferring the "know how" of management skills with which to make the best use of tools, materials, capital, and labor, for, as Allen[61] puts it:

> . . . high productivity is often the result of the way in which capital resources are used, and is not determined solely by the quantity of them. The key, in other words, is to be found in organization.

Not only has the individual entrepreneur been assumed to exist in economic theory, but the whole of economic organization is also assumed to be directed toward economic development. In most underdeveloped countries this nebulous economic organization is weak, and the functions it plays in providing external economies, market opportunities, labor, and raw materials must be considered more explicitly. The economic organization of a community may be viewed as a tool of the community with which to induce economic development. In more developed areas, the action

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61. G. C. Allen, "Economic Progress, Retrospect and Prospect," Economic Journal, Vol. 60, No. 269 (September, 1950), pp. 463-480.

of this tool may be assumed to be almost automatic. In underdeveloped areas, it must be manipulated more explicitly.

Perfect information

Closely related to the assumption of entrepreneural ability is the assumption of perfect information. This assumption, which is an important simplifying mechanism in equilibrium analysis, is universally recognized as being a means to enable a more clear-cut analysis. No economist would pretend it is realistic, not even the Classicists who first made the assumption. In American agriculture, the extensive development of the extension service since the passage of the Smith-Lever Agricultural Act in May, 1914, is an explicit recognition that the assumption is unreal.

Discussions of the problems of underdeveloped areas have all recognized that information in the hands of individual cultivators is important, and programs such as Point IV have, from the start, employed specialists in information as well as in more technical scientific fields. (Certain recent investigations of the behaviour of the firm in agriculture have developed an analysis in the light of risk and uncertainty which is an important step toward the development of a more general analysis of economic choice in cases where information is lacking. Because of the widespread lack of knowledge in agriculture in underdeveloped areas--much more important even than in more developed nations--this theory promises to be an invaluable aid to understanding action of individual cultivators faced with economic choices.[62])

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62. See, for instance, Earl O. Heady, Economics of Agricultural Production and Resource Use (New York: Prentice-Hall, Inc., 1952).

Adjustment lag

In dealing with the processes of economic development, several assumptions of adjustment must be explicitly recognized. As an example, established economic theory concerns itself with the maximization of returns from a given increment of capital, but never doubts that the capital will be used, and, in equilibrium, postulates that it will be used where it will yield the greatest return. In underdeveloped countries, however, it is not always safe to assume immediate capital absorption following a capital transfer. Such considerations as the institutional structure of an economy must be carefully considered. This is an area where current practice recognizes adjustment problems, and organizations as the International Bank for Reconstruction and Development pay close attention to the absorption and use of capital transfers made by it.

In a similar manner, the introduction of new techniques in agriculture, even where proved obviously beneficial, does not necessarily take place rapidly, and a period of many years may elapse before custom and inertia are overcome and the new technique is widely applied.

External economies

An implicit assumption in earlier economic theory involved external economies. But, Adler[63] maintains the concept has "never been adequately explored." He writes:

> It may be assumed that in the equalization of the marginal net output of each unit of investment the existing external economies are already taken into account, but in the course of the

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63. John H. Adler, "The Fiscal and Monetary Implementation of Development Programs," American Economic Review, Vol. 42, No. 2 (May, 1952), pp. 584-600.

> investment process new external economies are bound to emerge, or, more properly, if an optimum investment flow is to be attained, an attempt must be made to create additional external economies.

Adler continues to develop the concept that certain external economies exist within the framework of world trade which are available to commercial interests of a nation, thus affecting the pattern of economic development in the nation.

Viner[64] points out that the problems of economic development in underdeveloped areas are intimately tied in with international trade, implying that considerations of economic development must take into account the limitations imposed by the framework of trade regulations and the external economies provided by world commerce.

The problem of external economies comes forcefully to the front when considering measures to improve labor and capital efficiencies in underdeveloped areas. The most economic allocation of scarce resources among alternative ends in underdeveloped nations must be reached with much more explicit consideration of external economies than in more advanced areas.

Productivity rewards to factor contributors

Established marginal analysis techniques are used to demonstrate that low wages paid laborers, including agricultural laborers, in underdeveloped regions are "fair" wages on the basis of the contribution labor makes to the final product.

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64. Viner, op. cit. (12 - note 4)

The argument advanced[65] holds that in equilibrium the marginal value product (the added revenue received for an added unit of input) of the labor in the enterprise will equal the wage rate. Since the marginal value product and hence the wage is determined by the marginal physical product, where marginal physical productivity is low a low wage is the "fair" wage. In many underdeveloped areas the marginal physical productivity of labor is low compared to that of more advanced economies because of a lack of capital equipment to work with and because of a lack of education.

The marginal value product argument depends for its validity on many rigid assumptions about other economic conditions. In particular it depends on unchanging external economies, conditions of investment, techniques, and levels of education. In dealing with the situation of more advanced economies where techniques are pushed toward the limit of knowledge, these assumptions are not too restrictive. But in underdeveloped areas where small amounts of capital investment, or only rudimentary educational efforts will cause vast changes in the physical productivity of either rural or urban labor, the assumptions might be considered too restrictive.

The Latin American economist Edmundo Flores, who was working as a Food and Agriculture Organization consultant in Bolivia, is quoted as

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65. For a more complete treatment of these concepts see Kenneth E. Boulding, Economic Analysis (New York: Harper & Brothers, Publishers, 1948), pp. 502-509 and pp. 698-701. Boulding uses "marginal revenue productivity" in the same sense as "marginal value product" is used in the present work.

saying that the marginal value product argument for setting wages "is a rationalization for exploitation."[66]

Flores attacks essentially the unreality of the assumptions in a situation where conditions are so different from those of the more advanced economies. He was particularly concerned with the low level of wages paid in Bolivian tin mines which were sometimes justified by the marginal value product analysis.

In a nation where vast shifts in the physical productivity curves are possible with a small amount of education, Figure 2 might portray the situation.

In Figure 2, the existing low level of the marginal value product is indicated by the slope along the total revenue curve PP'. The going wage is indicated by the ratio shown by the line OW and the quantity of labor employed in equilibrium is shown by the point of tangency of AB (parallel with OW) and PP'. This shows a level of employment ON and a value of output OS.

Suppose an educational program is undertaken in such a way that the total revenue curve is shifted to the new position RR'; this new curve can be drawn to indicate not only the increased productivity of labor, but also to include a discount to pay for the cost of the educational program; that is, the total revenue curve would be higher if there were no cost attached to education.

When the total revenue curve is shifted to RR' the adjustment of the

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66. Statement relayed in a conversation between the author and Dr. John F. Timmons, professor of land economics, Iowa State College, on October 10, 1954.

firm if there were no change in price paid for labor (i.e., perfectly elastic labor supply), would be to hire OM workers at the wage indicated by OW. This would result in no increase in wage rates.

Should, however, the firm hire the same quantity of labor as before, ON, then the wage rate indicated by the slope of the marginal productivity curve at that point would be indicated by the line EF, an increase in wages.

In the actual situation, such a large increase in labor demand by a firm so dominant as the tin mines in Bolivia would perhaps not be met by a perfectly elastic labor supply and the final equilibrium achieved would lie at some point along the curve RR' with a quantity of labor more than ON but less than OM, and at a wage rate higher than indicated by the line AB and lower than EF. Thus both the producing firm and the laborers would be better off.

Another way of analyzing this same situation is shown in Figure 3.

In Figure 3 the marginal value product of labor before education is indicated by the bar AB, and the total revenue by AC, leaving the firm a surplus of BC on the marginal unit. After education, the marginal value product has been increased to JK, the total revenue to JL, and the surplus of the firm has been increased to KL.

Institutional impediments and contributions

In thinking about the economic development of underdeveloped areas, economists have more and more recognized that more specific attention must be paid to the influences social institutions have on economic development. The influence of these institutions has always been present in economic life. That neo-Classical economists were not explicitly concerned

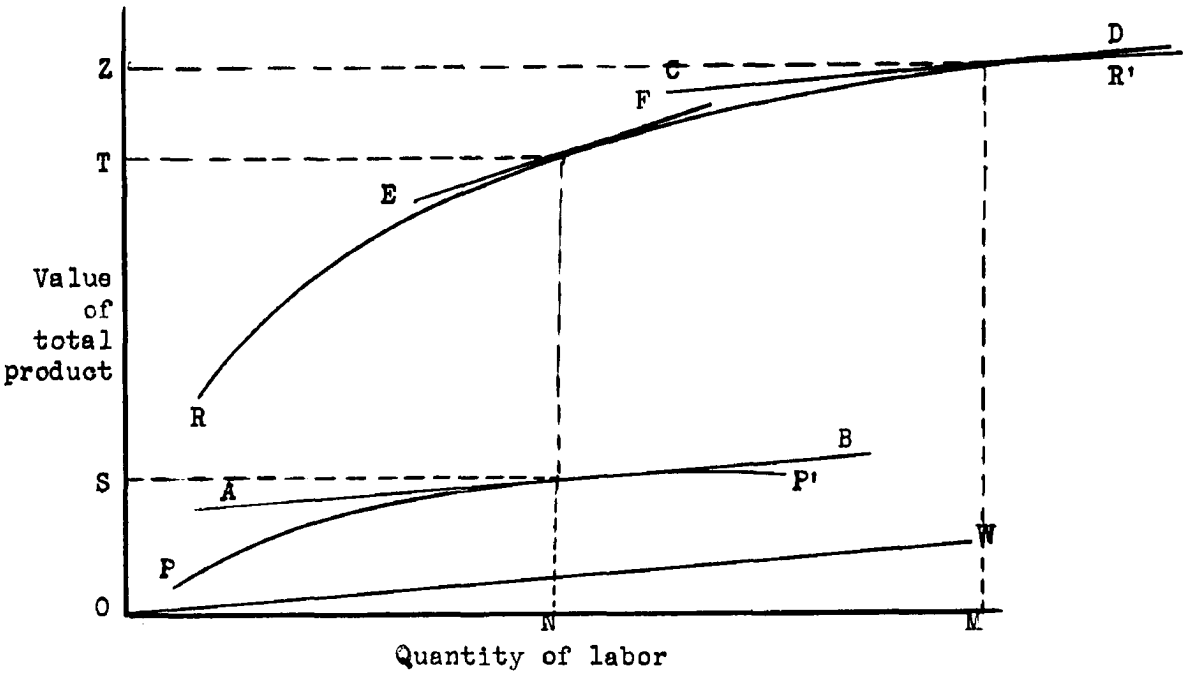

Figure 2. Hypothetical marginal value product analysis

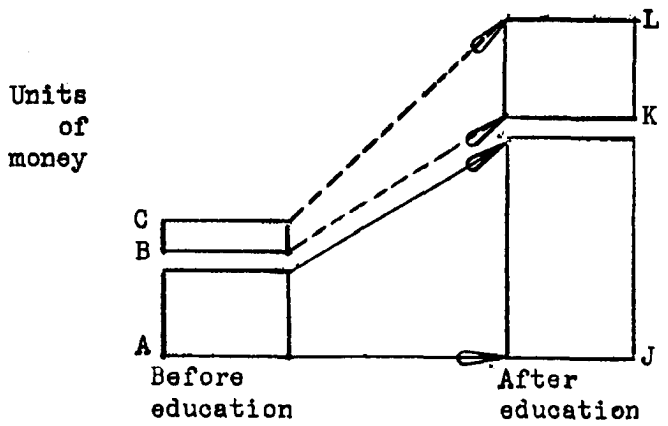

Figure 3. Hypothetical marginal value product analysis

with institutions does not mean the influence was absent. Rather, institutions for the most part were uniform for the nations in which they were interested, and did not affect their analysis so explicitly when they applied it to a real situation. Such economic historians as Tawney,[67] for instance, have demonstrated the influence the institution of Christianity has had on the institution known as capitalism.

Institutions have most forcefully been recognized in recent years as impediments to economic advancement. The United Nations pamphlet Land Reform, Defects in Agrarian Structure as Obstacles to Economic Development[68] approaches economic development from this standpoint. Human institutions such as religion, political traditions, custom, caste systems, etc., all are obviously related to economic development. To outline all of them fully, even in briefest, is unnecessary for present purposes.

Of more importance is the increasing recognition among economists that institutions which impede economic progress have not only failure elements within them, but also success elements. The task in specific instances is to attempt to assess institutional impediments, and to determine methods to overcome them or perhaps even to harness them.

An example of an institution regarded as an impediment in which the success elements are used is provided by Herskovits.[69] In Africa, customs

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67. R. H. Tawney, Religion and the Rise of Capitalism (New York: The New American Library, 1947), 280 pp.

68. United Nations Department of Economic Affairs, Land Reform, Defects in Agrarian Structure as Obstacles to Economic Development.

69. Melville J. Herskovits, "Some Problems of Land Tenure in Contemporary Africa," Land Economics, Vol. 28, No. 1 (February, 1952), pp. 37-45.

of communal land ownership have been regarded as handicaps to instituting a tenure system which would assure that individuals who do the work will receive the benefits of their labor. Herskovits reports:

> One of the ways in which a more adequate utilization of land can be achieved [in Africa] is through co-operative efforts which permit the transfers of deep-seated patterns of African cultures to the present-day scene. No better example of this is to be had than can be found precisely in the Gold Coast where co-operatives of the native cocoa growers have long functioned effectively. Similar co-operatives are also found elsewhere and on the basis of traditional usage, can be further expanded in terms of modern developments.

Economists in more developed nations have expressed a distinct preference for democratic government, not only from the standpoint of personal freedom and Western concepts of the individual, but also from the more restricted viewpoint of democracy as an institutional factor promoting economic development.

Galbraith[70] writes:

> If we look at the countries that have been characterized by great change in the last century we will find that they have all avowedly popular government. They have not all been parliamentary democracies--although the greatest changes have been associated with this manifestation of popular government. However, they have all been governments, even in the case of dictatorships, which have made serious claims to governing on behalf of the people. In contrast, and equally without exception, the areas of stagnation have been those that were subject to colonial domination or where a domestic oligarchy has made, at most, only a shallow pretense to serving an interest beyond its own. I know of no backward country which can be said to have a truly popular government.

Galbraith continues to cite "excellent economic reasons" why change should be "associated with, and confined to" popular governments. Economic development is to the advantage of the masses of the people. If

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70. Galbraith, op. cit., p. 694.

they have the political power manifested in popular government--or are "of sufficient political consequence" so a dictator can remain in power only by his claim to serve mass welfare--there will be progress. However, progress does not necessarily benefit the colonial power or the domestic oligarchy. Landlords in backward countries would not welcome economic development which would rob them of cheap and servile labor.

Staley[71] inquires:

> Are there any guiding principles which may help leaders of underdeveloped countries who prefer their countries to take the democratic path, and which ought also to be taken into account in international efforts to assist democratic development? One such principle is broadening the bases of political power. This will not give infallible answers to all questions that arise, but I suggest that it can give a direction to practical thinking which may avert potentially serious blunders and increase the prospect that economic development will be successful development.

Long[72] considers a popular form of government an important institutional setting for economic development, asserting:

> Men simply work more energetically, more effectively, and more important, more creatively under some forms of social and economic organization than under others.

Thus the preference for democracy is well-founded among economists considering the institutional setting desirable to achieve in underdeveloped regions. But, lest within the framework of popular government, too much rigidity is assumed, Allen[73] cautions:

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71. Eugene Staley, The Future of Underdeveloped Countries (New York: Harper & Brothers for the Council on Foreign Relations, 1954), p. 223.

72. Long, op. cit., p. 729.

73. Allen, op. cit., p. 478.

> It would be rash to condemn novel kinds of economic arrangements because they pay little regard to the conditions necessary for the successful operation of past systems, which, themselves, had plenty of faults.

Economists and others interested in the problems of fostering economic development in underdeveloped areas are recognizing that active government participation in economic development is necessary. The laissez faire concept that economic development would occur if governments confined themselves to non-economic functions has been almost completely abandoned. Current literature and such action programs as Point IV and the Colombo plan assign an essential role to government action in promoting economic development. Governments are expected to do much of the direct investment to create external economies and to take fiscal measures such as tariffs and special taxation legislation which will encourage economic development. Large international capital transfers are more and more seen as government transactions, as, for example Cooke[74] suggests when he writes:

> Manifestly much of the external financing of Middle Eastern programs of economic development at least for the present and near future, would have to be provided either by the United States Government or by international agencies with important American participation.

Nurkse[75] comments that:

> . . . there is a widespread tendency for the state to take over a greater responsibility for the direction of the process of capital formation. In this situation the rate of accumulation no longer reflects the sum of individual preferences and

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74. Hedley V. Cooke, Challenge and Response in the Middle East (New York: Harper & Brothers, 1952), p. 310.

75. Ragnar Nurkse, Problems of Capital Formation in Underdeveloped Countries (Oxford: Basil Blackwell, 1953), p. 143.

> propensities in regard to saving and current consumption, but is increasingly determined by governments on grounds of national policy.

This kind of government action runs directly counter to the feeling current in most Western countries at the turn of the century, an opinion based on the apparent success of laissez faire economic policies during the 19th century. And, of course, present opinion assigns as large a responsibility to non-governmental economic activity as individuals feel can be effectively discharged. However, the question of intervention with private activities remains, and the delineation between just which action should be government and which private is a difficult line to draw.

In economically underdeveloped nations in particular, the role of the government has come to be thought of as crucial and necessary in promoting economic development.

Overpopulation vs. underdevelopment

Much thinking current today--including much in economics--abandons the prospects of underdeveloped areas almost before they are considered on the grounds of "overpopulation." These people note the staggering absolute increases. They can find only concern in such facts as the census figures indicating that between 1931 and 1941 the population increase in India alone was more than the total population of the United Kingdom.[76]

Widespread popular interest in the problems of population has come from the publication and wide distribution of a number of books which take an extremely pessimistic view of the situation. Most influential among

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76. Conrad Taeuber and Irene B. Taeuber, "World Population Trends," Journal of Farm Economics, Vol. 31, No. 1, Pt. 2 (February, 1949), pp. 237-250.

these is William Vogt's Road to Survival,[77] Fairfield Osburn's Our Plundered Planet,[78] and Frank A. Pearson and Floyd A. Harper's The World's Hunger.[79] Among professional economists, too, there has been widespread interest, for the problem of population is obviously crucial to economic development. Professional interest has been reflected in such pessimistic articles as Spengler's "The Population Obstacle to Economic Betterment,"[80] reports such as the Rockefeller Foundation Public Health and Demography in the Far East,[81] and a group of many more optimistic articles.

Current population thinking goes back to the works of T. R. Malthus, especially his An Essay on the Principle of Population cited earlier.[82] His was the first explicit effort to express the relationship existing between population pressure and food supply. At the time he was writing, there seemed to be much more justification than at present for his thesis that "population invariably increases, where the means of subsistence increase, unless prevented by some very powerful and obvious checks."[83]

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77. William Vogt, Road to Survival (New York: William Sloane Associates, 1948), 335 pp.

78. Fairfield Osborn, Our Plundered Planet (Boston: Little Brown and Co., 1948), 217 pp.

79. Frank A. Pearson and Floyd A. Harper, The World's Hunger (Ithaca: Cornell University Press, 1945), 90 pp.

80. Joseph J. Spengler, "The Population Obstacle to Economic Betterment," American Economic Review, Vol. 41, No. 2 (May, 1951), pp. 343-354.

81. M. C. Balfour, R. F. Evans, F. W. Notestein, and I. B. Taeuber, Public Health and Demography in the Far East (New York: Rockefeller Foundation, 1950), 132 pp.

82. Malthus, An Essay on the Principle of Population.

83. Ibid., p. 16.

Throughout medieval times European population was held fairly well in balance. Fertility rates were high, but so were mortality rates. Famines, of which some 600 have been recorded in materials known to us today covering the period from the birth of Christ to 1800, acted as one of the positive and "obvious" checks against population increase. Disease and pestilence took their toll, and plagues such as the famous Black Death of the 14th century wiped out two-thirds to three-fourths of some populations, and claimed nearly a fourth of all the lives in Europe. Intermittent warfare provided another important positive check. The Thirty Years' War, for example, reduced the population of Bohemia and the German States to between a third and a half of their former numbers.

But this balance was upset during the years from 1650 to 1800. Agricultural production and trade activity increased in Europe and the total population almost doubled. It was this increase in population pressure, together with the reports of rapid increase in the American settlements, that led Malthus to formulate his population theory.[84]

Malthus' theory can be paraphrased along the following lines: (1) population is always pressing against the means of subsistence; (2) any increase in subsistence will be rapidly absorbed by increased population; (3) this results in the standard of living on the whole remaining near the subsistence level; (4) this subsistence level of living would result in a varying, but generally high, death rate which would continuously check any population increase.

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84. This historical sketch depends largely on Raleigh Barlowe, "Population Pressure and Food Production Potentialities," Land Economics, Vol. 25, No. 3 (August, 1949), pp. 226-239.

Fortunately, Malthus has proved a poor prophet in respect to all the countries of which he was writing. Myrdal and Vincent [85] suggest Malthus was guilty of a "lack of imagination" which introduced two important biases into his thinking.

First, they contend, he thought the customs of a people are much more unchangeable than they actually are. This bias has constantly influenced thinking about population and economic development in underdeveloped regions up to the present time. Myrdal and Vincent[86] point out that discussions of people considered on a lower level of development such as those in the Southern states of the United States or in Asia even today "give too fixed a picture of ingrained social habits and patterns of behavior and ideas." This same sort of stereotype was applied a century ago to the lower classes in England and Scandinavia which since have changed tremendously "in status, culture, and responsibility."

A second bias in Malthus' thinking was the gross underestimate of the technological progress ahead. In fairness to Malthus, it should be mentioned that he and his contemporaries could hardly have been expected to foresee either how dramatic and far reaching technological change would be, nor could they have anticipated the extensive shifts in outlooks toward family values which have caused people in the West voluntarily to limit their families.

Often in the economic literature of the later 19th century is found

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85. Alva Myrdal and Paul Vincent, Are There Too Many People? (New York: Manhattan Publishing Company in co-operation with United Nations Educational, Scientific, and Cultural Organization, no date), p. 12.

86. Ibid.

the idea that great inventions were behind and future progress could consist only of making fuller use of techniques already known. Perhaps the most famous instance of this is the almost apocryphal tale of the United States patent office chief who resigned late in the 19th century giving as his reason that all the important inventions had been made. His mistake was a natural one, since it is easy to look back and see how certain discoveries have produced great practical effects, while it requires imagination and foresight to anticipate the effects of future scientific research.

However, Myrdal and Vincent[87] accurately point out:

> Living in this age of atomic discovery, we ought to be protected from this old static bias. Today we all know that, from the atom, we have to fear destruction of our whole civilization and that we can hope--if peace is preserved--for nothing less than a magic multiplication of energy and food.
> In both these prospects--changes of habits or technical progress--the future may show an even more dynamic rate of change than in the past, particularly in the underdeveloped countries. One reason for this is the widening scope of planning as a means of organizing the economy of a country, the growing tendency to intervene for more rational development of population and of resources.

The present world population is some 2.4 billion humans. Table 1 gives an indication of long-term world population growth from 1650 to 1950, while Table 2 gives an indication of recent rates of growth.

It is interesting to note in Table 2 that although Asia has been the area which has been the object of most concern on the part of neo-Malthusians because of its population growth, North America had a higher percentage rate of increase. Furthermore, during the same period, North America enjoyed a considerable improvement in level of living. (It must

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87. Ibid.

be noted, in fairness to neo-Malthusians, however, that they are primarily concerned with high growth potentials, and not so much with present rates of growth, although many of their "scare" statistics are based on recent absolute growth rates.)

Table 1. World population growth: 1650 to 1950[a]
(population in millions)

Area	1650	1750	1800	1850	1900	1950
Africa	100	95	90	95	120	194
America	13	12	25	59	144	324
Asia	330	479	602	749	937	1270
Europe	100	140	187	266	401	600[b]
Oceania	2	2	2	2	6	12
Total	545	728	906	1171	1608	2400

[a]Estimates for 1650 to 1900 are from A. M. Carr-Saunders, World Population--Past Growth and Present Trends (Oxford: Clarendon Press, 1936), p. 42.

Estimates for 1950 from Taeuber and Taeuber, op. cit., p. 241. The estimates are "based mainly on data furnished by the Statistical Office of the United Nations."

[b]Including Asiatic part of the Soviet Union (population about 20 million in 1897; about 40 million in 1939).

Only about one-fifth of the world's present population appears to be approaching a stationary state, and this fifth is composed principally of peoples already enjoying relatively high incomes. Spengler[88] estimates that another fifth "though describable as proto-stationary, may experience an increase of 50 per cent or more in a half-century." The balance of the world's population, some 60 per cent, is expanding. Spengler estimates,

[88]Spengler, op. cit., p. 347.

"abstracting from the possibility that a cheap contraceptive could be widely and rapidly diffused," that the 1.5 billion people living in Asia, Africa, and Latin America may increase 100 or 200 per cent before they develop Western fertility patterns and acquire a Western age structure. Much of this growth would come through increased length of life. Should this anticipated population growth occur, the population of the world, now some 2.4 billion, would exceed 5.5 billion in another century.

These figures are startling, and indicate clearly the magnitude of the problem population poses, but they can only be taken as indicative,

Table 2. World population: recent growth estimates, 1936 to 1947[a]

Area	1937	1947	Percentage increase[b]
Asia (excl. postwar area of Soviet Union)	1130	1236	9
Europe (excl. postwar area of Soviet Union)	371	384	4
North America[c]	139	157	13
Latin America	123	153	24
Oceania	10	12	15
Africa	161	184	14
World total (incl. all areas)[d]	2120	2320	9

[a]Adapted from Taeuber and Taeuber, op. cit., p. 238. The estimates are "based mainly on data furnished by the Statistical Office of the United Nations."

[b]Percentages computed before rounding.

[c]Excluding Central America.

[d]Estimates contain an approximate allowance for the population of the postwar area of the Soviet Union.

for as Taeuber and Taeuber[89] point out, "a simple projection of the rates of increase of the world or the continents into the future would be most fallacious."

For convenience in discussing population problems, Thompson[90] has suggested nations can be classified into three groups on the basis of the population growth potential within the nation.

Class I countries are characterized, demographically, by very low death rates and very low birth rates, compared with the rest of the world. Nations falling into this classification are those of Western Europe, North America, and Australia and New Zealand. As a consequence of the low birth rate, these countries are growing at a fairly slow rate from the standpoint of population. At the same time, most of them have made substantial advances in living standards in the last 25 years. Thompson estimates these nations had about 435 millions in 1940, about 21 per cent of the world population.

Class II countries are characterized by medium death rates which have been brought under a certain measure of control, although Thompson says the control "is much less certain" than in Class I nations. The birth rates, on the other hand, are high and as a consequence they have high rates of growth similar to those which prevailed in most Class I nations prior to 1900. Among these nations Thompson places countries in Southern

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[89]Taeuber and Taeuber, op. cit., p. 241.

[90]Warren S. Thompson, "World Population Trends, Problems, and Policies," in John F. Timmons and William G. Murray (eds.), Land Problems and Policies (Ames: The Iowa State College Press, 1950), pp. 31-44.

and Eastern Europe, including the Soviet Union, Japan, and some countries in North Africa and South America.

Thompson anticipates these nations will grow rapidly for at least three or four decades ahead. Some will pass into Class I in the meantime, perhaps, and others will continue to grow longer than that. These nations had a population in 1940 of 432 million, almost as large as the Class I countries, and nearly 21 per cent of the world total. They have been increasing their relative proportion of the total population over the last 50 years, since in 1900 they had only 15 to 16 per cent of the total. Thompson predicts:[91]

> It is quite probable that for the next few decades they will grow at a more rapid rate than any other class. In absolute numbers they may even grow more than Class III countries.

Class III countries, the remainder of the world, are characterized by high death rates and high birth rates. Such control over population as is exercised is largely confined to death rates, and even that is precarious.

The effects of modern technology on population growth in these areas are sometimes startling. For example, Indra[92] reports the "most significant trend in fertility" in Ceylon has developed after the use of D.D.T. in malarial districts where rice, coconut, and market garden vegetables are produced. The fertility in these districts, among the lowest in Ceylon in 1946, "is now easily the highest," and the mean rate of natural increase "has more than trebled itself between 1945 and 1952."

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91. Ibid., p. 36.

92. R. Raja Indra, "Fertility Trends in Ceylon," Population Bulletin, Vol. 10, No. 7 (October, 1954), p. 94.

Similar effects on death rates could be cited both from Ceylon and from other Class III nations.

Class III countries contain almost 60 per cent of the world's population, all but 10 to 12 per cent of it in South and East Asia and neighboring islands. Some of them--India, Java, the Philippines, and a few others--have been growing fairly rapidly during recent years. They are classified as Class III by Thompson because their death rates are not "under reasonably secure control," and "death rates in particular are likely to fluctuate widely from time to time and thus render growth highly uncertain."[93]

Thompson continues:

> The potentialities of growth in these Class III countries are enormous as witnessed by the growth of India and Java during the past few decades. In China the potentiality is as great as in India, possibly even greater. . . . Altogether, considering the conditions which have encouraged population growth in other lands having a similar economy, it appears highly doubtful whether China has had any appreciable population growth for several decades. . . . When the birth rate of any country is in the neighborhood of 45 per 1,000, as is probably the case in China, even if the death rate is 35, over three times our present rate, the increase would be at least 4 million a year. . . .

Recognizing the sizes and potentials of growth of world population, concern naturally arises about food supplies and potentials for food production.

The technological answer to population growth

In 1946 the Food and Agriculture Organization of the United Nations published its World Food Survey[94] giving its estimates of food needs and

93. Thompson, op. cit., p. 37.

94. Food and Agriculture Organization of the United Nations, World Food Survey (Washington: Food and Agriculture Organization of the United Nations, 1946), 39 pp.

production targets for the assumed population of 1960. (See Table 3.) These targets are based on the need for average diets of moderate costs. They would not, of course, solve the problems of unequal distribution among different population groups within nations, nor inequalities among nations.

Table 3. Estimated prewar production of broad classes of food and the increases and targets recommended by FAO[a]

	Estimated prewar production (million metric tons)	Recommended increases to reach targets (per cent)	Targets for world population in 1960[b] (million metric tons)
Cereals	300.4	21	363.5
Roots[c] and tubers	153.2	27	194.6
Sugar	30.0	12	33.6
Fats and oils	15.2	34	20.4
Pulses and nuts	36.2	80	65.2
Fruits and vegetables	156.3	163	400.0
Meat, eggs, and fish	65.6	46	95.8
Milk	150.2	100	300.4

[a]Adapted from Food and Agriculture Organization of the United Nations, World Food Survey, p. 18 ff. Estimates are for 70 countries, including 90 per cent of the population of the world.

[b]Assuming a 25 per cent increase in population over 1946.

[c]Includes bananas.

Salter[95] estimates that these goals could be met solely through better utilization of resources and techniques known to exist. He estimates increases obtainable through more intensive use of present cropland and

95. Robert M. Salter, "World Soil and Fertilizer Resources in Relation to Food Needs," in E. E. Turk (ed.) Freedom From Want, Chronica Botanica, Vol. 11, No. 4 (Summer, 1948), pp. 209-283.

through the development of additional land not now cultivated would more than meet the goals of five of the seven basic classes of food, and could be made to meet others also if shifts in the utilization of certain raw products were made. He concludes:[96]

> To meet world food needs, then, much less than all these sources of production are required, if efforts are made to produce those classes of foods in deficit.

Kellogg[97] agrees, pointing out studies estimate a 20 per cent increase of output could be secured in the United States on most farm products. He suggests that, considering the relative state of agricultural production techniques in other temperate regions, "at least" a comparable increase would be possible in them, "assuming an economic system in which farmers may operate efficiently."

Kellogg[98] also estimates that 1.3 billion acres of new land could be brought under cultivation with known techniques. He says at present less than 10 per cent of the total land area of the world is cultivated. In the temperate regions of the world the better soils are nearly all occupied. North of the temperate region, in the cool-temperature Podzol region, only about 1 per cent of the soil is cultivated. If this were expanded on a basis comparable to the use of similar soils in Scandinavia, about 10 per cent of this might be brought into cultivation, some 300,000,000 acres of new land. These soils are suitable for dairying and for potatoes and other vegetables.

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96. Ibid., p. 233.

97. Charles E. Kellogg, "Food Production Potentialities and Problems," Journal of Farm Economics, Vol. 31, No. 1, Pt. 2 (February, 1949), pp. 251-262.

98. Ibid., p. 253.

Much more important are the vast reaches of tropical lands in Africa, South America, and Central America, southeastern Asia, and the Pacific islands. The most important areas of tropical soils now in use are in southeast Asia, India, and some of the Pacific islands. Kellogg suggests that on the basis of experience in the Far East, South America, and the use of related soils in warm and humid southern areas of the United States, at least some 20 per cent of the presently unused tropical soils might be brought into cultivation, principally in South America and Africa. This would add some 900,000,000 acres of arable land. Another 100,000,000 acres could be utilized on the tropical islands such as New Guinea, Madagascar, and Borneo.

Kellogg suggests his estimates are probably "either too low or too high"[99] and most of it is "difficult" soil, requiring some sort of development, but he has no doubt it could be done if properly organized.

These estimates of increased productivity with presently known techniques and of increased land areas which could be cultivated with the application of farming methods currently used in some parts of the world show significant increases--beyond the FAO targets-- could be accomplished. Yet they take no account of new technology, which has probably been the outstanding characteristic of Western civilization since 1850. Kellogg points out that in the United States technology has not only increased efficiency and productivity since 1800, but has done so at an increasing rate. Noting the "tropics . . . hasn't even a soil science of its own, let alone technology," he asserts there "is no reason at all

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99. Ibid.

to suggest that present results in the tropics" using technology imported from temperate nations "are even partially indicative of the future."

Optimism regarding future improvement through increasing technology is more than justified by recent trends, Bennett[100] concludes:

> The half century preceeding World War II may then reasonably be regarded as one more accurately characterized as giving evidence of improvement in per capita food supplies than the opposite. Widespread indeed were demonstrable improvements, whereas positive deterioration suggested in some places is subject to doubts not readily dispelled or can be explained in terms of political interference. . . . The forces that make for higher levels of living, with accompanying dietary improvement, must have been tremendously powerful.

More unorthodox types of technological change than are commonly thought of are suggested by Barlowe.[101] He suggests hydroponic farming "may become economic," the claims of exponents of aquatic culture "may develop into realities, that synthetic elaboration of food "may become practicable," and that the use of isotopes and other recently developed physical and chemical techniques "may have far-reaching effects on food production."

These writers indicate vast potentials for food production still exist in the world, both from known techniques and from new techniques which may not unreasonably be expected to come from continued scientific research into agricultural problems.

Not only does a potential exist for increased food production sufficient to meet population demands, but there is some evidence to indicate the nations of the world are making progress toward that goal.

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100. Merrill K. Bennett, "Population and Food Supply: The Current Scare," Scientific Monthly, Vol. 68, No. 1 (January, 1949), pp. 17-26.

101. Barlowe, op. cit., p. 229.

Cardon[102] reports:

> The year 1953 marked a turning point in the postwar food and agricultural situation. With the abundant harvests of 1952/53, world production for the first time since the war caught up with the growth of world population. But the expansion of production was unevenly distributed, and in 1953 heavy surpluses of certain commodities accumulated in some countries, though there was little improvement in the diet of millions of inadequately fed people over large areas of the world.

Table 4 indicates the world food position compared with the 1934-38 average.

Although the current food production position is encouraging, it should be noted, as Cardon[103] points out, that in many regions of the world agricultural production is still "well below" its pre-war level in relation to population, and that "fully half the world's people are still inadequately housed, clothed, and nourished."

The tremendous potential food production which can be envisioned and the recently demonstrated ability of the world to match increases in population with increases in agricultural output do not, of course, eliminate the food problem posed by population growth. It does, however, indicate a margin of growth vastly more than commonly assumed by the neo-Malthusians who have lately been raising alarms.

A number of writers viewing the problems of population and food supply has suggested some "optimum" population level should become a conscious goal of demographic policy in a nation. Spengler,[104] for example, writes:

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102. P. V. Cardon, "Forward," in Food and Agriculture Organization of the United Nations, The State of Food and Agriculture 1954 (Rome: Food and Agriculture Organization of the United Nations, 1954), pp. 1-2.

103. Ibid., p. 2.

104. Spengler, op. cit., p. 345.

> The population of a country may be said to be of optimum size when, given the cost of supporting the economically unproductive part of the population, the aggregate population is of the minimum size required to maximize per capita income in a manner compatible with the relevant rate of interest and the assumption that other conditions remain constant.

Table 4. Total agricultural production, per capita food production, and average annual increase in comparison with the growth of population, 1953-54[a]

Region	Per capita food production (1934-38 = 100)	Total agricultural production	Average annual increase: postwar base period to 1953/54[b] (per cent)	
			Production	Population
Western Europe	107	121	4.1	0.8
North America	119	147	2.2	1.8
Latin America	96	132	1.8	2.4
Oceania	93	123	2.4	2.6
Far East[c]	87	108	2.2	1.4
Near East	108	139	4.8	1.9
Africa	105	137	2.3	1.6
All above regions	103	127	2.8	1.5
World[d]	102	119	2.5	...

[a]Adapted from Food and Agriculture Organization of the United Nations, The State of Food and Agriculture 1954, pp. 18-19.

[b]"The average of the three years 1948/49 to 1950/51 has been taken as a postwar base as in most parts of the world the first phase of postwar adjustment and reconstruction had been completed by 1948/49."

[c]Excluding China.

[d]Including estimates for the Soviet Union.

Many writers do not even recognize the "other conditions" qualifications Spengler includes. Since, as Spiegel[105] points out, technology and

105. Henry William Spiegel, Current Economic Problems (Philadelphia: The Blakiston Company, 1949), p. 30.

the use of capital change continuously in economically more developed societies and the change involves many variables in addition to population, the optimum concept "has little meaning in an operational sense."

Myrdal and Vincent[106] strongly condemn the concept of the optimum as suitable for thinking about population levels in underdeveloped nations.

They suggest that it is perhaps possible to get a concept of the maximum population which can be supported in any region by defining the limit as the place where "hunger leads to famine."[107] But a concept of optimum cannot be developed. To develop a concept of optimum would involve making assumptions about resources, productivity, trade restrictions, and, most hazardous of all, specific personal preferences. They point out:[108]

> The basic flaw in this whole idea is the assumption that it should be scientifically possible to prove one type of life or one size of population absolutely "better" than another. . .

They therefore assert unequivocably:[109]

> This theory of the optimum has proved completely useless as a scientific instrument. In spite of all the pages of literature which have been, and continue to be, devoted to discussing population optimum, very rarely has any author attempted to make practical use of the theory for any specific country. It has remained an academic theory in the worst sense of the word. In the few cases where anybody has tried to make an estimate of a country's population optimum, the estimate has all too obviously been founded on personal choice rather than on any detached theory.

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106. Myrdal and Vincent, op. cit., p. 13.

107. Ibid., p. 14.

108. Ibid., p. 15.

109. Ibid., p. 14.

The real problem posed by population is not immediate starvation, since technology offers substantial hope for vastly increased food supplies, and not that of determining an "optimum" since that is a concept of no value. The real problem facing those considering economic development in underdeveloped areas revolves around the "transition" from Class III countries--those where high birth and high death rates prevail--to Class I countries--where low birth rates and low death rates have brought population growth either to a standstill or within an easily controlled rate consciously related to economic development and personal preferences.

The figures and indications cited have shown no threat exists from the Class I countries; nor is there a threat from the Class III countries as long as they do not begin to adopt Western technology--particularly disease control measures. But as soon as the process of economic development begins, and it must certainly begin one way or another, the problem of the transition arises. And 60 per cent of the world's population today lives in areas of high growth potentials. Ways must be found to enable these people to embark on economic development aimed toward the standard of living levels of the people in economically more developed Western nations without at the same time cancelling the progress made by a population increase. In some respects this becomes a problem of inducing economic development rapidly, and in others a problem of changing mores more directly and more rapidly than through the changing standards which accompanied Western economic development.

Taeuber[110] illustrates how critical this problem is by outlining the

110. Irene Taeuber, "The Population of Southeast Asia," in Conference on World Land Tenure Problems, Proceedings, Part 1 (Madison, Wisconsin, October 8 to November 20, 1951), unpaged.

growth of population on Java under Dutch control. She suggests civil disorder, ignorance of the principles of sanitation and nutrition, a fluctuating food supply, and epidemic and endemic diseases retarded population growth severely until the early 19th century when Dutch influences began to penetrate into the life of the people. With Dutch control came peace, public health measures, and improved agricultural technique. Under the settled regime of the Dutch colonial administrators, the native population of Java and Madura increased from the 5 million the Dutch found there when they started their administration in 1816, increased to 13 million in 1861, 30 million in 1905, to 41 million in 1930. By the latter date, Java was one of the most densely settled agricultural areas in the world, rivaled only by Egypt's Nile Valley, parts of India's Ganges, and some areas of China. Population per square mile of total area was some 818 in all Java, and had reached 1,274 in Jogjakarta.

Along with this growth in population made possible by the removal of certain positive checks, there came no accompanying changes in cultural objectives such as had accompanied similar increases in population which had taken place in Europe during the period of the Napoleonic Wars and the first World War. Instead, the people of Java remained largely agricultural, subsisting largely on locally grown foods. Such economic development as did take place was carefully planned to minimize cultural shock. As a result, the ancient values and habits of living remained the same. The family was the focal point for the value system, and the women continued to view their primary place in society as work and procreation. Childhood was terminated abruptly by field labor, and cultural values exerted pressure for new families to be created early in the life span.

Faced with these facts arising out of 150 years of peace imposed by a colonial system, the new Indonesian republic is faced not alone with the problem of economic development which can increase productivity and income, but with a parallel problem of changing the culture and value system of its citizens, for, as Taeuber[111] points out:

> The only feasible alternative to a demographic catastrophy would . . . appear to be planned national action to introduce the small family pattern directly into the peasant villages.

This problem of effecting the demographic transition involves the question of transfers of technology from the West in current aid programs. This is discussed later in this chapter, but two points especially relevant to the demographic transition from Class I nations to Class III nations should be mentioned at this point.

The first is the conclusion reached in the discussion of technology that the West must orient its economic development aid to assure a balance of supply-increasing technology (i.e., techniques which improve productivity, better agricultural stocks, and agrarian reform measures which increase total output) at at least as fast a rate as the demand-increasing technology (i.e., sanitation and disease control which increase population).

The second observation about the problem of the demographic transition is the need for birth control measures on the part both of individuals and governments in Class III nations as they apply demand-increasing technology and begin to make progress in economic development.

The importance of introducing cultural changes which will shift

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111. Taeuber, op. cit., p. 3.

values from a large family pattern to a small family pattern has been emphasized by Taeuber in an earlier citation.

Barlowe[112] notes that "population control policies may have a place" in those areas of the world where a large population increase would accompany any increase in productivity given the present system of family values. The best way for such population policies to be initiated would be through "voluntary reductions of fertility rates." If an effort to induce rapid industrialization and urbanization were made in areas of high growth potential, "it is possible that educational programs might succeed in bringing the fertility and mortality rates down at the same time," making possible an increase in levels of living. Such an educational effort might avoid the cultural lag which has characterized industrialization and urbanization in the West.

Myrdal and Vincent[113] question if a decrease in mortality necessarily precedes a decrease in fertility," suggesting the various phenomena which may be observed in France and Scandinavia should "encourage caution in accepting the pattern as universal."

However, it would seem that some sort of contraceptive, if not necessary, would be a tremendous aid in effecting the demographic transition. Many influential leaders in the West argue against contraception on moral grounds, but it would seem just as rational to introduce contraceptives as other means of controlling fertility where the object is to improve levels of living.

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112. Barlowe, op. cit., p. 238.

113. Myrdal and Vincent, op. cit., p. 36.

Eldridge[114] recognizes this need for some sort of action during the demographic transition, writing:

> On the whole it is difficult to judge which approach represents the more formidable program in social engineering, the economic or the contraceptive. . . . Most of the proponents of population control regard their program as a holding operation while economic development gets under way.

Noting recent research promises an inexpensive contraceptive suitable for the use of peasant populations living under relatively primitive conditions, Eldridge[115] concludes that "even as the possibility of greatly increased food supplies appears to be just around the corner" so also does a feasible means of controlling the rate of population growth appear to be "almost within our grasp."

The population picture as seen by the neo-Malthusians, then, is not nearly so dismal as these modern "dismal scientists" would have the world believe, even on their own grounds, even when investigating their own lines of argument.

But along with the significant potentialities for increased production and for effecting a demographic transition from Class III to Class I where a relatively stable population is maintained must be considered an equally important concept: people are resources. The neo-Malthusians look upon human beings chiefly as consumers, and upon resources as something fixed in amount to be doled out cautiously. They overlook the fundamental economic fact that people are also producers, and that increased numbers in the population also means increased numbers in the production force.

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114. Eldridge, op. cit., p. 7.

115. Ibid.

Fabricant[116] states this view clearly when he writes, "manpower is the major resource at the disposal of any nation." Baran[117] sees the problem clearly in underdeveloped areas, along with the difficult and inextricably associated problem of unemployment. The means to increase the output of goods and services in underdeveloped nations, he points out, is through rational utilization of available unutilized or under-utilized resources. The main component of these resources not presently being used in the most efficient manner is the "vast multitude of entirely unemployed or ineffectively employed manpower."

Eldridge[118] succinctly phrases the concept:

> Population and resources will not line up on opposite sides of a balance sheet, for population is itself both a resource and a consumer of resources. Even if a distinction is made between resources as a raw material and resources as human labor and ingenuity, the logical dilemma is not entirely avoided.

If people are resources, as they most certainly must be considered in mature, careful economic reasoning, then "overpopulation" becomes synonymous with "underdeveloped." The focus of attention turns from means of controlling population growth or reducing population to means of promoting economic development through increasing efficiency. And a very important aspect of the problem is to develop means of utilizing efficiently underemployed manpower in underdeveloped countries.

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116. Solomon Fabricant, Economic Progress and Economic Change (New York: National Bureau of Economic Research, Inc., 1954), p. 7.

117. Paul A. Baran, "Economic Progress: General Considerations--Discussion," American Economic Review, Vol. 41, No. 2 (May, 1951), pp. 355-358.

118. Eldridge, op. cit., p. 8.

Myrdal and Vincent,[119] pointing out this relationship between population and resources, assert "'overpopulation' is thus hardly more than an evasive name for poverty." Even where abundant physical resources exist, high fertility means many large families and this, "for the individual and for society, means poverty."

Obviously, the concept of "overpopulated" bears an inextricable relationship to economic development in Asia and other areas where, with present resource utilization and technique, there seem to be too many people to provide the levels of living felt desirable. Spiegel[120] makes this observation:

> Low productivity countries are over-populated; high-productivity countries are under-populated. Both concepts are relative in a two-fold sense: there is over- or under-population of a given country only in relation to other countries, and with a given population, a country may be over or under-populated depending on the quality of its population, available capital equipment, and natural resources, and the state of technology. Over population thus is generally the symptom of profound mal-adjustments which often could be cured by means of a more adequate social organization, improvements in education and technology, and more ample provisions for capital equipment.

To view the population growth potential of underdeveloped areas of the world with hysterical alarm, as neo-Malthusians are apt to do, is thus unjustified. The population of the world, large as it is and with the growth potential it has, can be adequately fed with the application of even known techniques, not to mention the new techniques which seem sure to come, many of them seemingly fantastic by today's standards. And the important economic fact that population itself is a resource--albeit a challenging one--must never be overlooked.

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119. Myrdal and Vincent, op. cit., p. 17.

120. Spiegel, op. cit., p. 28.

Thus the conclusion reached by Kellogg[121] seems amply justified:

> The goal of abundant food in the world is by no means a hopeless one, nor can it be reached easily. Whether the people of the world should have enough food or whether they will have enough food are not scientific questions. What soil science says is that if they want it, and if they are willing and able to develop the necessary social institutions, they may have it.

The current concern with economic development is one indication of the determination of the peoples of the world they will make the necessary adjustments in social institutions. All things considered, one must agree with Barlowe[122] who says, "the odds . . . seem to justify an attitude of optimism."

The role of technology in underdeveloped areas

The logic with which the neo-Malthusians are refuted rests firmly upon the introduction into underdeveloped areas of techniques of production and perhaps of population control--technology. And there is constant evidence that technology is increasing constantly. Indeed, Kellogg[123] and others point out that technology is "not only increasing efficiency but is doing so now at an accelerated rate."

The most striking aspect of the modern Western society--and the feature most desired by underdeveloped nations--is the technology. Fisher[124] suggests:

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121. Kellogg, "Food Production Potentialities and Problems," p. 262.

122. Barlowe, "Population Pressure and Food Production Potentialities," p. 237.

123. Kellogg, "Food Production Potentialities and Problems," p. 256.

124. Joseph L. Fisher, "Natural Resources and Technological Change," Land Economics, Vol. 29, No. 1 (February, 1953), pp. 57-71.

> The commanding feature in the economic history of modern times has been the application of new and improved technologies in industry. Technological change has been relatively rapid and large-scale throughout our economic system--in manufacturing, trade, transportation, distribution, agriculture, and in the techniques of management and control.

There seems no reason to doubt that much of this technology can be applied in the underdeveloped areas of the world, nor that it can have there the same striking effects upon living standards it has had in the West, providing the necessary adjustments in economic and social institutions can be made.

However, there does arise a problem when the consideration narrows down to just which techniques to transfer to underdeveloped areas and in what sequence. Kellogg[125] points out:

> Technical knowledge and skills can be a major contribution of highly developed countries to improving production in the newer or underdeveloped areas. These technological imports must be adapted to the economic situations and the potentialities of the country, with full consideration of the relative amount of the production that should be saved and that which should be consumed; and, of that which is saved, what should be invested in industry and what invested in agriculture. For example, in an area where the quality of the land is high and yields are low, a relatively small investment in agriculture may give substantial returns.

In their attempt to achieve economic development the underdeveloped nations have been forced to make use of a technology which has evolved in more highly developed nations. This is, of course, evident in technical assistance and aid programs. These highly developed countries have almost a monopoly on research, both physical and social. Kellogg[126] has already

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125. Kellogg, Food, Soil, and People, p. 51.

126. Kellogg, "Food Production Potentialities and Problems," p. 256.

been cited as saying no first rank agricultural soils research institution exists in the tropics.

This modern technology is principally directed toward capital-using innovation and labor-saving. This in turn accentuates the most acute problems of underdeveloped nations when an attempt is made to transfer this technology: capital is scarce almost by definition, and labor often present in excess. Even in the West this focus of technology causes problems in times of depression. Nonetheless, the successful business enterprises in the West, by-and-large, are those which are most active in applying these capital-using, labor-saving innovations.

This is certainly desirable in highly-developed economies. However, as Singer[127] points out:

> . . . this does not apply to the underdeveloped countries. For them, a different technology, and in many ways an older and "inferior" one would be more appropriate. Their factor endowment is defined by an acute shortage of capital and a relative abundance of labor. In many respects the technology of a hundred years ago would be desirable for them, and would make their economic development easier.

The capital-intensive technology now in use in the West affects the underdeveloped areas in at least four important ways, to follow Singer's classification.[128]

First, the initial investment is very high, and thus the scanty capital resources of underdeveloped countries are insufficient for a balanced type of development, which is the only kind which is reasonably efficient.

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127. H. W. Singer, "Obstacles to Economic Development," Social Research, Vol. 20, No. 1 (Spring, 1953), pp. 19-31.

128. Ibid., p. 26.

Second, the elaborate and expensive capital goods with which the modern, capital-intensive technology is implemented is too intricate to be produced in underdeveloped countries, and must be imported. This, in turn, puts added pressure on foreign exchange.

Third, the labor-saving faculty of modern technology is largely wasted in the underdeveloped countries because alternative employment opportunities are lacking. In itself this might not be so important, but the very cost of technological development using the modern Western techniques prevents providing adequate alternative employment opportunities. This factor greatly reduces the social productivity of the new technique in the underdeveloped area.

Fourth, the effective life of expensive and sometimes delicate equipment is often shorter in underdeveloped areas where maintenance services are not readily available and the operators themselves have little understanding of the machinery they are called upon to operate.

Singer[129] rightly points out:

> Thus the absence of a technology which is at the same time modern (in the sense of incorporating the latest contributions of scientific knowledge) and in harmony with the factor endowment of underdeveloped countries must be classed as another major obstacle to economic development. . . . The only remedy would be the development of a different kind of technology, and this is beyond the resources of underdeveloped countries.

While Singer points up an important problem, it would seem he underestimates the availability of labor intensive techniques more suited to the factcr endowment of underdeveloped countries. These techniques are to be drawn from the "inferior" techniques of earlier times in the West and

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129. Ibid., p. 27.

represent a substantial advance over present techniques in underdeveloped nations. Nor need they be innocent of all scientific advancement in the last century, for such advances as improved agricultural crop varieties and livestock and improved metallurgy are as applicable to a labor-intensive agriculture as to a more advanced one. Rather, it would seem, this would call for a careful assessment on the part of technical aid personnel of labor-intensive techniques available and their use wherever possible, saving scarce capital and foreign aid for those modern technical innovations which have a complementary effect on capital-intensive techniques.

Turning to agriculture, modern techniques can be seen to have made a substantial contribution which can be adapted to the needs of the underdeveloped areas. Following Brandt,[130] three major kinds of contributions applicable to underdeveloped countries can be classified.

First, there are better varieties of plants with higher and safer yield capacities, and far more effective means of giving these plants a better supply of such essential growth factors as water and nutrients, or varieties which adapt themselves better to existing supplies. In addition, there are tremendously important new methods of fighting weeds, fungus and bacteria diseases, insect pests, birds, rodents, and other enemies. These are all available to underdeveloped areas with a minimum of outside assistance.

The revival of the pistachio nut industry in a dozen villages in the

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130. Karl Brandt, "The Reconstruction of World Agriculture," in International Conference on Agricultural and Cooperative Credit, Proceedings, Vol. 1 (Berkeley, California, August 7 to October 2, 1952), pp. 514-529.

Damghan area 200 miles east of Tehran, Iran, illustrates how this new technology can be applied with but the barest minimum of foreign technical aid.[131] The area had been close to starvation since its nut trees were invaded by insect pests in 1936. Non-producing trees needed for pollination were being cut for firewood. In 1953 a United States trained Iranian technician obtained approval for a program to spray the trees to kill the pests. Then he ingeniously came up with the idea of using the air blast of the pumps to spread the pollen from the few remaining male trees. An Iranian mechanic built duplicates of a model air pump from the United States. The work was done at the cost of two cents per tree, paid for by the owners. In 1953, the people of the Damghan area harvested a $400,000 crop from 50,000 trees.

A second way in which modern technology is applicable to agriculture even in underdeveloped areas comes in improving the yields of animals used as converters of plant substances into animal proteins, fats, and fibers by applying advancements of chemistry, biology, medicine, and veterinary medicine to control diseases, parasites, and pests. Artificial insemination has greatly accelerated the improvements of herds through breeding with high-grade sires, while at the same time relieving the individual operator of the necessity of keeping a breeding sire on a very small farm.

Thirdly, technology applied to processing, storing, transporting, and marketing agricultural products enables rural people to secure a greater proportion of high quality food from a given quantity of farm output than ever before. Techniques such as drying have been improved, yet still may

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131. "Sharing of Technical Knowledge Is Transforming Retarded Sectors of the World," New York Times, May 24, 1954, p. 8, col. 1.

be done on individual farms, and such improvements as community canning centers are spreading.

Lastly, mechanization has improved the possibilities for increased productivity, even though this is an outstanding instance where transferred techniques may be singularly inappropriate.

Still, Brandt[132] suggests:

> The mechanization of farm operations is not an end in itself, but a solution at a particular point in development when farm labor has become scarce and expensive. The use of oxen or cows may be far more economical when such conditions do not apply. Then the introduction of multiple-row plows and cultivators, of pneumatic rubber tires, or of used-car axles and wheels for ox-drawn implements may be the appropriate means of increasing the output per worker. Often the combination of a tractor worked on hire for many farmers with ox-drawn implements being used by most of them provides a sensible solution.

An interesting graphic solution to choice between techniques is proposed by Brozen.[133] (See Figure 4.)

Brozen suggests that A, B, C, and D be considered different techniques in a one-product economy with capital and labor the only two factors of production. The iso-quant indicates differing levels of output which are achieved at different points on the various techniques. If C were a capital-intensive technique and A a labor-intensive technique, it is shown on the graph that a larger output of product would be achieved by shifting from the capital-intensive to the labor-intensive, if, as in many instances the amount of capital available is determined from outside the system in the model, say b. The graph clearly indicates the possibility

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132. Brandt, op. cit., p. 518.

133. Yale Brozen, "Determinants of the Direction of Technological Change," American Economic Review, Vol. 48, No. 2 (May, 1953), pp. 288-302.

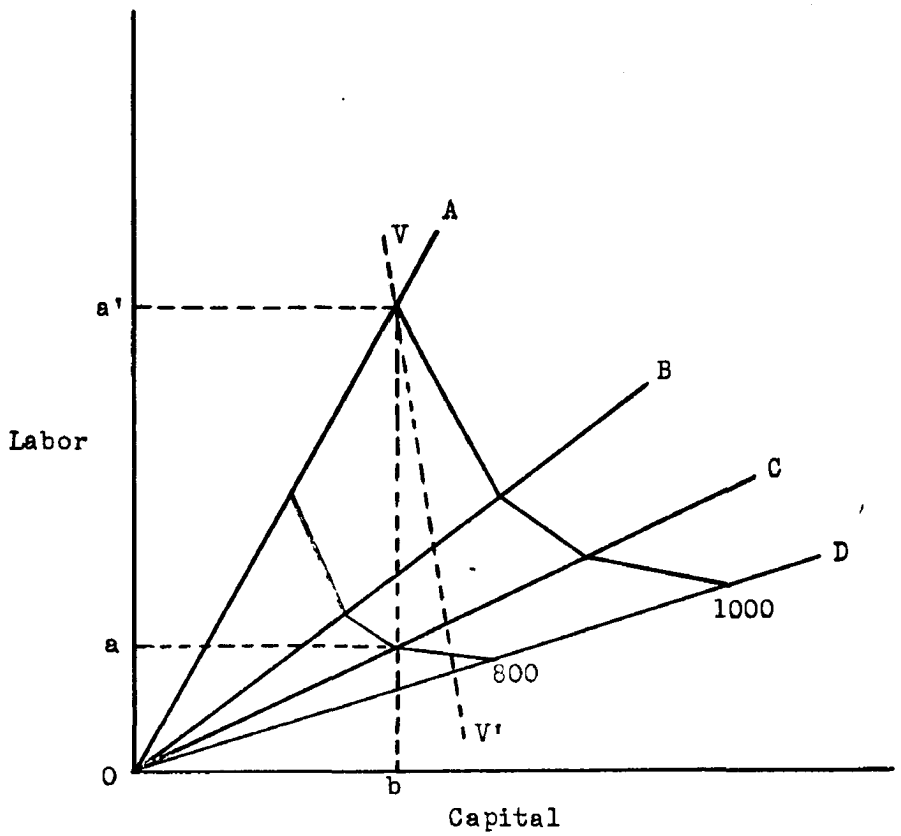

Figure 4. A graphic solution of choice between techniques

of the choice of an inappropriate technique, which, Brozen[134] suggests:

> . . . represents the sort of mistake that is made in ambitious development programs for underdeveloped areas where capital is very scarce. If these areas would at first employ what may seem primitive techniques, instead of trying to imitate the techniques employed in capital rich areas, they would attain higher levels of national income.

A budget line suggested by VV' would indicate a choice where relative prices are known when the model is generalized to include more than two inputs. However, in underdeveloped nations, the absolute amount of capital available at any relevant price may be limited, limiting the usefulness of the analysis.

Several nations are attempting to adapt the available techniques to develop "cottage industry" based upon using excess rural labor in the villages to produce goods for commerce. The techniques used, while not the labor-saving techniques of the latest modern technology, do make a significant forward step toward reducing underemployment in agricultural areas without damaging the structure of rural society.

Brandt[135] is firmly of the opinion that the techniques of modern technology can be utilized in the pattern of "cottage industry"--which he terms agro-industrial village development:

> From all this I conclude that it is possible today for countries who are late-comers in industrialization to benefit from the very latest word in technology that other countries have developed, and yet to avoid repeating the tortuous course of industrialization the others have had to follow because they cut the path in the wilderness. If agro-industrial village development were deliberately chosen as the basic pattern of economic progress in old, densely settled, not-yet-industrialized countries, the advantages gained would be tremendous. There would be no destruction of the mature fabric of the rural society and the

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134. Ibid., p. 294.

135. Brandt, op. cit., p. 528.

> village and town settlement. There would be no mass migration, and no trek of uprooted people who invariably get the short end of the deal in the cities. The villages, instead of being drained of life, would acquire new vigor, and the continuity of the existing culture would solve many social problems in a natural and humane way. After all, industrialization can and should be a means toward the end of greater human happiness and social justice.

Brandt justifies his feeling of agro-industrial development as being suitable for underdeveloped nations by citing the experience of similar developments in Switzerland, Austria, Wurttemberg in Western Germany, Belgium, Sweden, parts of Czechslovakia, and parts of Japan.

This particular form of the use of technology would solve one of the most difficult problems facing individuals studying economic development in underdeveloped nations: the utilization of underemployed labor in rural regions. This underemployed manpower, along with a lack of capital, is the dominant feature of the factor endowment of most underdeveloped nations.

The exact technologies which may be employed to increase output in agriculture or in cottage industries have been indicated in only the most general manner here. It is not within the scope of the present discussion to detail them any more. However, it can be emphasized that they operate in a cultural and economic setting highly relevant to the present topic. Economic development and agrarian reform must be seen as operating in their total cultural setting, and cannot be effectively carried out without consideration of the cultural factors.

It is not quite as obvious, perhaps, that technology is related in a similar manner to the culture in which it is used. The only reason Western technology can be transferred to Asiatic and other underdeveloped areas is

because the cultural values in those areas are shifting to include a desire to further economic progress and thus a willingness to incorporate these technological features into the life of the people.

Ayres[136] goes so far as to assert that "all skills are cultural." Skills are part of the "lore" of a society, and become a major component of the "technological behaviour patterns" of the culture. These patterns are "objectified in tools, instruments, formulas, and notations of many kinds." This objectification is important in underdeveloped areas because it must be "the basis of technological development."

Not only is technology intimately related to the culture and in large measure conditioned by it, but the reverse relationship is true, also, a fact painfully evident to individuals who attempt to teach people in underdeveloped areas how to use technological tools.

The adaption and use of technology, whether indigenous innovation or transferred technology, requires adjustment. Brandt[137] emphasizes the point:

> It is a treacherous oversimplification to believe that a few modern tools and devices will soon bring about the desired results if only they are made available. First of all, a society must adjust its values, mores, and goals so as to be able to endorse a sufficient concentration of effort upon an increase in food and fiber production, and to accept the changes necessary to achieve these goals. People's religious beliefs have far more to do with their actual daily conduct and pursuits than any of them may ever know or admit. The acceptance of technical progress in agriculture by religious leaders and ministers is frequently an essential pre-requisite.

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136. Clarence E. Ayres, "The Role of Technology in Economic Theory," American Economic Review, Vol. 43, No. 2 (May, 1953), pp. 279-287.

137. Brandt, op. cit., p. 519.

And, as would be expected, different cultures in different underdeveloped regions accept the adjustments new technology forces upon them quite differently.

It should be pointed out that the attitude of the government itself toward technological adjustments is important. The role of government in overall economic development is discussed elsewhere, and at this point it is only desirable to point out that two aspects are mentioned. First, the government itself has become an important factor in furthering economic development, and likewise in encouraging the introduction and utilization of new techniques. This is true to much more of an extent than was true in 19th century Europe and North America, the areas whose economic development the underdeveloped nations are attempting to parallel but in a reduced time span. Secondly, government policies, especially fiscal policy including taxation, monetary credit, and foreign investment, and labor and wage policies profoundly influence the rate at which technology can be introduced and what technology is introduced.

Finally, it should be emphasized that agrarian reforms themselves will affect the kinds of agricultural technology which can be effectively introduced. Indeed, agrarian reform measures should be consciously formulated in the light of anticipated technological innovations in agriculture, and perhaps adjustments made to encourage an environment more favorable to desired technolocal introductions.

The importance of transferred technology to economic development has not, of course, been overlooked in the modern world. Indeed, there are widespread programs of international technical aid designed to make modern technology available to underdeveloped nations. This worldwide

technical aid program has been characterized by the New York Times[138] as "one of the largest and most successful enterprises on which the world has ever engaged." For the 2 fiscal years of 1953-54 the United States spent approximately $270,000,000 on technical aid programs operated through the agencies of the Foreign Operations Administration. For the fiscal year 1955 the Congress appropriated $185,000,000 total economic aid funds including direct developmental assistance in the form of investment and materials.[139]

The United Nations established a Technical Assistance Administration in 1950 and operates a regular program co-ordinated with the programs of the specialized agencies (including the Food and Agriculture Organization), and with the developmental programs of the United Nations member states. For 1954, 76 nations and the Vatican pledged over $24,000,000. (The United States commitment to this total was $18,000,000, but the Congress appropriated only $10,000,000, and will re-examine the commitment in 1955). This United Nations program has involved pledges of over $85,000,000 since its establishment in 1950. Over 100 countries and territories have been aided.[140]

Another important technical and economic aid channel has been the Colombo Plan, to which every nation in the free areas of southeast Asia including Japan now belongs. Principal non-Asian members are countries of

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138. Will Lissner, "World-wide Pool of Technical Aid Reducing Misery," New York Times, May 24, 1954, p. 1, col. 5.

139. Ibid., p. 8 f.

140. See "Report Summarizes Major Achievements of UN," Christian Science Monitor, October 25, 1954.

the British Commonwealth. The United States has made a substantial contribution. The program was set up in 1950 with a 6-year plan involving the expenditure of some $5,230,000 (less than $2 per head per annum).[141]

Other intercountry programs of technical assistance are also in operation in various parts of the world.

Supply-increasing vs. demand-increasing technology in planning economic aid programs

Technical and economic aid can be conveniently classified as supply-increasing or as demand-increasing. Already cited earlier in this study were the cases of rapid growth in Java resulting from the imposition of a stable civil order, an institutional innovation, and, more important to the present discussion, the increase in fertility and its implications for population in Ceylon.

Pampana[142] discussing the results of a 5-year study on the results of malaria control programs in six tropical and sub-tropical areas reports:

> With all reservations on the completeness of registration in some of the above territories, and being well aware that general mortality and infant mortality have been receding in recent years in most countries, it is recognized that the sudden decline of mortality and of infant mortality rates has invariably followed the application of country-wide malaria control in all the six territories observed.

It is widely recognized that these are not atypical of the results which arise from the widespread application of modern technology and

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141. See "The Colombo Plan: New Horizons," British Record, Oct. 20, 1954, p. 3, and Keith Hutchison, "The Colombo Plan," The Nation, Vol. 171, Nos. 24 and 26 (December 9, 23, 1950), p. 530 and p. 678, respectively.

142. E. J. Pampana, "Effect of Malaria Control on Birth and Death Rates," Population Bulletin, Vol. 10, No. 7 (October, 1954), p. 93.

sanitation procedures in various areas. The application of this technology results in a definite increase in demand through the increase in population resulting from lowered death and increased fertility rates. These are dramatic, easily seen results. They are relatively quick in their operation. The capital cost is not great. And the advantages are immediately apparent not only to the receiving nations, but also to contributors.

Yet increases in population as a result of these demand-increasing technical innovations may actually have the effect of lowering already too low standards of living. Even if this is not the case, they may act to prevent any increase in levels of living.

On the other hand, the introduction of supply-increasing techniques, in agriculture as well as industry, may take much more effort and technical assistance, much more capital investment, and much more time to become effective.

It seems clear, therefore, that the nations making available demand-increasing technology--of which the United States is the principal one--bear a terrible moral obligation to the humans whom they are trying to help also to provide supply-increasing technology. Moreover, this supply-increasing technology must be at least enough to offset the effects of the demand-increasing technology.

It is only just that the United States establish as a fixed moral obligation to humanity a definite relationship between supply-increasing and demand-increasing technical assistance.

It would seem an unequivocable rule for allocating technical and economic aid that available resources be so distributed that increased

food and fiber resulting from the introduction of supply-increasing technology be at least as much as the increase in food consumption which will result from parallel application of demand-increasing technology.

Concepts of the resource base

From the foregoing discussion it can be seen that population, often seriously underemployed population, is the outstanding feature of the factor endowment in underdeveloped areas.

Further, experts in the application of the technology of the Western world are of the opinion that transferred technology can be adapted to utilize the factor endowment pattern in effecting economic development.

Indeed, the application of technology to the factor endowment provides the very definition of economic development proposed by Ayres[143] who suggests that economic development can be seen as a "continuity of technological development."

In considering the problem of fostering economic development in underdeveloped areas, economists have been led to re-examine the concepts of the resource base as assumed in the established economic theory. The established theory takes a short-run view of resources, usually with the concept of resources as a physical quantity. Long[144] reflects an emerging questioning of this viewpoint among economists concerned with economic development when he asks:

> Do we not have here a case of the same kind of erroneous reasoning which led early classicists to draw improper conclusions in their rent theories from the assumption of the fixity of land supply as a productive factor?

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143. Ayres, The Theory of Economic Progress, p. 248.

144. Long, op. cit., p. 725.

The physical resource base as it exists at any given moment is of vital importance to planning for economic development; of that there can be no doubt. And the importance, as would be expected, is widely recognized. This is evidenced in the attention paid to resources such as is reflected by the United Nations Scientific Conference on the Conservation and Utilization of Resources in 1950 which assessed the situation as it exists in various parts of the world.

But the definition of a resource depends on the technology available at any given time and at any given place. With the advance of technology, a corresponding change in what is considered the resource base occurs. Eldridge[145] recognizes this discussing the existing resource situation in relation to food:

> The record of man's progress is one of increasing ingenuity in controlling his environment and planning his future. While resourcefulness is not a complete substitute for resources, the latter cannot be exploited without the former. Furthermore, it is clear that what constitutes a resource is subject to the most startling changes. It is quite impossible to foretell very far into the future just which among the presently unused objects and forces lying about on our planet or perhaps drifting through outer space may be transformed overnight into valuable resources.

Fisher[146] emphasizes the relationship of technology to resources:

> Natural resources have economic reality and significance only relative to the character and trend of technological change. They are as changeable as the technology which defines and surrounds them.

Physical scientists are recognizing this dynamic quality of resources more and more. Only the mention of atomic energy need be made in

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145. Eldridge, op. cit., p. 4.

146. Fisher, op. cit., p. 58.

illustration. Another indication is found in the Proceedings of the United Nations Scientific Conference on the Conservation and Utilization of Resources where one whole section is devoted to "Creatable Resources: The Development of New Resources by Applied Technology."[147] Such topics as new foods derived from micro-organisms, the derivation of industrial raw materials from marine algae, and the application of chemurgic techniques to improve yields in processing agricultural crops are discussed.

In this setting, as Fisher[148] comments:

> It would appear that a natural resource is a growing thing which may move from a stage in which men are unaware of any economic potentialities through a stage in which men become increasingly aware of possible economic significance to a stage in which labor and capital are applied to it and it is able to command a price.

(This viewpoint also has important ramifications in considering the conservation of resources, since resources as a whole and even a given kind of resource such as coal can no longer be thought of as existing in some fixed quantity. S. V. Ciriacy-Wantrup[149] made a pioneering statement when he pointed out the customary distinction between exhaustible and non-exhaustible resources is more one of degree than of kind when resources are seen as to some extent a function of technology.)

The thinking of economists about resources and what defines them can

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147. United Nations Scientific Conference on the Conservation and Utilization of Resources, Proceedings, Vol. 1 (Lake Success, New York, August 17 to September 6, 1949), pp. 129-165.

148. Fisher, op. cit., p. 57.

149. S. V. Ciriacy-Wantrup, "Taxation and the Conservation of Resources," The Quarterly Journal of Economics, Vol. 48 (November, 1933), pp. 159-170.

be seen to have considerably broadened until now the definition of resources by such an authority on the resource base as Zimmermann[150] has suggested they are "those aspects or phases of man's endowment and environment upon which people depend for aid and support."

Not only are resources to be seen as subject to change from the application of new techniques, but equally important in thinking about economic development, resources and technology both must be considered a part of the whole culture pattern, and can be understood and applied only within the pattern of existing or changed folkways, mores, social institutions, and other elements of culture. Specifically, the pattern within which resources are now seen includes the legal framework and the organizational techniques available in the underdeveloped area being considered.

Earlier the concept of population as an important resource in underdeveloped nations has been developed at some length. This viewpoint, as Myrdal and Vincent[151] express it looks upon "man as the most important resource in the world."

When the relationship of technology to economic development acting through its effect on the resource base is coupled with the concept of population as a resource, an important reorientation of thinking emerges. For the economist it has far-reaching significance in determining the assumptions from which he works, and the direction of his inquiry. What

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150. Erich W. Zimmermann, "What We Mean by Resources," in Texas Looks Ahead, Vol. 1, The Resources of Texas (Austin: University of Texas, 1944), p. 1, quoted in Fisher, op. cit., p. 58.

151. Myrdal and Vincent, op. cit., p. 46.

must now be recognized, as Long[152] puts it, is:

> . . . in the long run, the limits on the supply of resources are the limitations of the scientific and organizational powers of man to construct these resources from the sum total of mass and energy which nature provides. In the long-run analysis, the term "resources" must be treated as essentially synonymous with the sum total of all the processes by which man adapts his environment to suit his purposes, through the instrumentality of human knowledge--scientific or otherwise.

Or, as Zimmermann[153] states it so succinctly, "knowledge is truly the mother of all resources."

And so stated the strength of our civilization--its technical proficiency--and also its weakness--its institutional backwardness--become obvious. Zimmermann[154] again brings the idea into sharp focus when he suggests "the removal of this dissonance from our life is the burning problem of our day." The resources available to mankind in the future depend largely upon its solution.

Capital availability and capital rationing

Virtually all writing concerning economic development recognizes the importance of capital in the process of economic development. Some writers seem to despair of any economic development without substantial capital transfers, while others have attempted to develop suitable guides for the use of limited capital while adapting the development pattern to use the local factor endowment.

The point to be emphasized at this point is that thinking about

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152. Long, op. cit., p. 726.

153. Zimmermann, World Resources and Industries (New York: Harper & Brothers, 1951), p. 10.

154. Ibid., p. 39.

capital as expressed in established economic theory must be expanded to recognize the institutional and social factors which prevent a free flow of capital. The allocation criteria for capital thus become less definite than under the more restrictive theory. The concept of marginal determinants for investment must be extended. Kahn[155] suggests the proper criterion for capital allocation is the "social marginal product." Adler[156] points out the concept of external economies is inadequately developed, and thus the strict earlier concepts not wholly valid. In particular, Adler, paralleling Kahn in part, stresses the emphasis which must be put on "social overhead capital" by which he means the creation of socially desirable external economies. He maintains that capital is not more productive at the margin in underdeveloped countries because of a lack of external economies.

The problem, then, becomes one of raising the capital that is critical to economic development. Most of the attention in the literature, especially in earlier writing, is directed to means of securing external capital. But this has proved very difficult in the present state of institutional limitations, and more recently attention has turned to matching external capital with internal fiscal and monetary measures aimed at encouraging internal capital formation, as indicated in the United Nations report[157]

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155. Alfred H. Kahn, "Investment Criteria in Development Programs," Quarterly Journal of Economics, Vol. 65, No. 1 (February, 1951), pp. 38-61.

156. John H. Adler, "The Fiscal and Monetary Implementation of Development Programs," American Economic Review, Vol. 42, No. 2 (May, 1952), pp. 584-600.

157. United Nations Department of Economic Affairs, Mobilization of Domestic Capital in Certain Countries of Asia and the Far East (Bangkok: United Nations Department of Economic Affairs, 1951).

on Mobilization of Domestic Capital. (The question of capital in relation to underdeveloped nations and to agrarian reform is discussed in more detail elsewhere.)

A final point regarding capital is that it, too, must be seen in the institutional framework of the underdeveloped area in which it will be applied. Nurkse[158] carefully warns before launching into his discussion of problems of capital formation in underdeveloped countries that capital is a necessary but not a sufficient condition of progress and economic development "has much to do with human endowments, social attitudes, political conditions--and historical accidents." The extreme interrelationships between factors present in every instance of economic development (and agrarian reform directed toward economic development) cannot be ignored.

Definition of Concepts Used in This Dissertation

Although the terms economic development, underdeveloped country, and agrarian reform are widely used, there is no strict definition of any of them in widespread use. Indeed, Viner[159] complains the literature "is extraordinarily lacking in explicit definition of the basic terms it employs." For the purposes of this dissertation they may be specified more explicitly.

Efforts to note any changes in economic development and the effects of agrarian reform involve some sort of measurement. Since the thing

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158. Nurkse, op. cit., p. 1.

159. Viner, op. cit., p. 94.

which economists wish to measure is an intangible concept of improved human welfare, there arises the problem of what inferences can be made about individual welfare from aggregate figures.

Clark is definitely of the opinion that at least economic progress, if not economic development, can be adequately defined in terms of aggregates as they affect economic welfare. "Economic progress can be defined simply as an improvement in economic welfare," he writes.[160] That the techniques of aggregates can be used to estimate economic welfare he explicitly asserts:[161]

> Certain modern theoretical economists have gone so far as to say that it is impossible to compare the level of income between two communities or between two individuals, or even between the same individual at different times; in other words, they deny the existence of any objectively measurable economic welfare (and incidentally provide themselves with a magnificent excuse for avoiding any study whatever of realistic and quantitative economics.)

Little's well-known study of welfare economics distinctly asserts that, under the explicit conditions he establishes by close logical analysis, interpersonal comparisons are valid, and that money measures, properly applied, can indicate orders of comparative welfare.[162]

However, caution is urged in identifying aggregate movements too closely with economic welfare and development. Frankel[163] notes that

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160. Colin Clark, The Conditions of Economic Progress (London: Macmillan and Co., Ltd., 1940), p. 1.

161. Ibid., p. 27.

162. I. M. D. Little, A Critique of Welfare Economics (Oxford: The Clarendon Press, 1950), 275 pp.

163. S. Herbert Frankel, Some Conceptual Aspects of International Economic Development of Underdeveloped Territories (Princeton: International Finance Section, Department of Economics and Social Institutions, May, 1952), p. 6.

much literature on economic development implies that:

> . . . the basic criterion and objective of development is the increase in, and indeed, the maximization of, "aggregate" national or "collective" net money "income;" it being assumed ex hypothesi, that this statistical abstraction will indicate a "real" increase in welfare, and provide both a measure of, and the target for "progress."

Frankel points out this concept of income is an accounting concept and care must be exercised in its use as an indicator of increases in economic welfare and as a measure of economic development. He concludes that:[164]

> It is the realisation that true economic growth is a many-sided individual and social process which I believe is the most important lesson of past attempts to link underdeveloped territories and peoples into a wider world economy. It consists in the re-fashioning of aptitudes, and beliefs of individuals to give them new freedom in their multitudinous daily tasks--many of them not assessable in accounting or financial terms. . . . The real task is not to force change but to induce it in a manner which will be meaningful to the members of the societies it affects.

Recognizing that aggregate income per se is not an important goal of economic development, most discussions of economic development and agrarian reform have some concept of per capita income change as the goal. Here again, problems arise as to the shifts in income of any given individual and of the relationship between income and welfare. Viner[165] suggests the use of per capita income as a measure of economic development, but raises a note of caution when he considers what happens where an underdeveloped nation:

> . . . which has embarked on a programme of economic development engages in periodic stock-taking of its progress, and finds not only that aggregate wealth, aggregate income, total population,

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164. Ibid., p. 22.

165. Viner, op. cit., p. 99.

> total production are all increasing, but that per capita wealth, income, production are also increasing. All of these are favourable indices, but even in combination do they suffice to show that there has been "economic progress," an increase in economic "welfare," rather than retrogression?

And Frankel[166] suggests that fallacious identification between income and welfare diverts attention from the "real problem" which is "to discover what 'income' is to consist in: what changes in social demand, in social institutions, habits and beliefs should, and can be induced."

Economic development

The concept of economic development in the literature is more a general concept than a precise definition. Generally the definition is avoided by default. The most widely accepted concept, however, relates economic development to some aggregate and to increases in national income. This is sometimes coupled with an explicit recognition that these increases must not bring a worsening of distribution. A per capita concept is generally either stated or implied. These elements constitute the most common definition of economic development implied in United Nations publications, as Mikesell[167] points out:

> . . . there is a tendency in U.N. reports to be concerned with measures of aggregates, such as indexes of production, GNP, capital-output ratios, foreign trade, balances of payments and terms of trade, rather than with the theory of value, the dynamics of markets, and cost-price relationships. There is an implicit assumption that movements of these aggregates provide a measure of progress toward national economic goals and hence establish the proper criteria for governmental policy and planning.

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166. Frankel, op. cit., p. 7.

167. Raymond F. Mikesell, "Economic Doctrines Reflected in U.N. Reports," American Economic Review, Vol. 44, No. 2 (May, 1954), pp. 570-582.

Economic development is sometimes not defined at all in these United Nations resports. For example, no definition at all is given in Measures for Economic Development of Underdeveloped Countries nor in Land Reform, Defects in Agrarian Structure as Obstacles to Economic Development.[168] Jacoby,[169] writing in an official Food and Agriculture Organization publication, expresses the working concept widely used by economists more concerned with processes than measurement:

> Economic development is the process of making fuller and more rational the economic utilization of the natural and human resources of a country. It is made possible by increased investment, by improvement in technique and organization, and by education or training of the people.

Many observers have pointed out other difficulties in using statistical series as indicators of economic development, aside from the very fundamental and difficult problem of whether such figures do, in fact, reflect the more intangible values which are the real goals. Kuznets[170] classifies these obstacles as of two sorts. First Kuznets mentions the "lack of basic data necessary to a comprehensive measure of output." Such data as are available are subject to a bias because of the abundance of some statistics and the scarcity of others which is not a random phenomenon. Kuznets also points out that series for underdeveloped nations are less common in part because in them economic activity is "still closely

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168. United Nations Department of Economic Affairs, Measures for Economic Development of Underdeveloped Areas; and United Nations Department of Economic Affairs, Land Reform, Defects in Agrarian Structure as Obstacles to Economic Development.

169. Erich H. Jacoby, Inter-Relationship between Agrarian Reform and Agricultural Development (Rome: Food and Agriculture Organization of the United Nations, 1953), p. 3.

170. Simon Kuznets, "Economic Growth--Measurement," The Tasks of Economic History, Journal of Economic History, Supplement 7 (1947), pp. 10-34.

integrated with non-economic factors within some social or political unit." The second important difficulty lies in the "institutional conditions of economic research," which call for large, co-ordinated efforts.

Against these, Kuznets lists three very important advantages of systematic measurement. The first is that there will become available information about the various segments of economic growth established by independent research. Kuznets[171] points out:

> The resulting stock of quantitative knowledge might then be useful in providing touchstones in the testing of various hypotheses in regard to factors affecting economic growth or in regard to necessary concomitants under specified conditions. By forcing a greater specificity upon some generally used concepts such as growth, stagnation, decline, maturity, and the like, such a stock of measures might also serve to reduce the area of dispute, or at least shift it to more productive fields.

A second advantage would be that systematic measurement "might provide a basis of a search for some commonly recurrent patterns of differentiation" accompanying economic development.[172] Thirdly, it might provide "the basis for a search of some stable patterns of change over time."[173] And lastly, and most important from the standpoint of individual underdeveloped nations:[174]

> . . . measures of economic growth can be analyzed and articulated into reflections of the extent to which the national economies serve the basic functions or end purposes that economic activity may be deemed to satisfy.

While Kuznets is not concerned so directly with the problems of

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171. Ibid., p. 31.

172. Ibid.

173. Ibid., p. 32.

174. Ibid.

fostering economic development in underdeveloped nations in this article, his observations are germane to thinking in that area.

It may also be observed that the reliability of statistical series when they are gathered in underdeveloped nations is open to substantial question.

Although recognizing the theoretical difficulties involved in attempting to incorporate aggregate concepts of economic development into thinking about economic development, and recognizing the immense difficulties of gathering and determining the reliability of such data, nevertheless it seems desirable that they form a part of any operational concept of economic development.

As used in this dissertation, then, economic development will be defined as a process whereby the people of an area come to utilize their human and physical resources to bring about a sustained per capita increase in the output of scarce goods and services, provided there is at the same time a movement in the direction of more widespread distribution of these goods and services. This increase will be assumed to be reflected, though certainly not exactly correlated with, increases in per capita real income and welfare.

Underdeveloped

The concept of an "underdeveloped" nation is also vague in the literature, but it lends itself to precision better than economic development. Virtually all authors use the term to refer to low income areas which exist in all parts of the world. Although the concept of underdeveloped might logically be applied to the United States in the sense that it could, if desired, support a vastly greater population at the

levels of living common in India, it is never used in that sense.

The term seems to have come into common use during and after World War II, although the first usage has not been recorded. Presumably the term developed out of an attempt to avoid the connotations implicit in the term "undeveloped," which inadequately describes the situation in the low-income but highly developed nations such as are found in southeast Asia. There also seems to have been a desire to avoid the stigma which had become attached to undeveloped. Although the term is not entirely satisfactory, it does have its merits. It focuses the attention of workers in the field on the fact that the problem is often not development of virgin territories, but the reorientation and acceleration of economic activities in nations which in some sense or another have already achieved some economic development but which provides what is considered an inadequate level of living.

Viner[175] suggests current literature on economic development has some five different definitions for underdeveloped countries. First, a nation is "often labeled as underdeveloped merely or mainly because it has a low ratio of population to area." Viner points out there are empty spaces which it is not to anyone's interest to have filled--such as the arctic and antarctic--and suggests that many tropical areas are not properly to be regarded as underdeveloped "unless 'underdeveloped' is to be used as synonymous with 'undeveloped.' There is no sense in wasting scarce resources in 'developing' areas which cannot provide a decent living for human beings," he asserts, "but a good deal of effort and wealth,

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175. Viner, op. cit., p. 94 ff.

and even a greater deal of talk, are being wasted on such areas."

Scarcity of capital as shown by the prevalence of high interest rates is sometimes advanced as an indicator of underdeveloped areas. Viner suggests this may be due to high risk, to a high marginal productivity function of capital with a high elasticity, or because capital has "so far been available only for the most urgent purposes but would have a low marginal productivity if more abundantly used." Only the second case would necessarily justify increased investment.

The "most commonly used criterion" for the classification of countries as developed or undeveloped hinges around the proportion of the population occupied in agriculture as opposed to industry and commerce. Although admitting there is a correlation between per capita income and industrialization, Viner questions if in some instances the income "is lower than it would be if urban industry were not artificially stimulated." He insists "non-industrialization" cannot be used synonymously with "underdevelopment." Where this usage is insisted upon, the practice is either "arbitrary" or "more-or-less conscious question-begging," having as its object the "evasion of analysis which would lead to unwelcome conclusions."

Viner questions the "expedience" of identifying the age of a country with development, a definition not widely suggested.

Viner suggests a "more useful definition" is that a country is underdeveloped if there is a good prospect for using more capital, labor, or natural resources to increase per capita income or to support a larger population at the same level.

Viner concludes:[176]

> This definitely puts the primary emphasis where I would think it properly belongs, on the per capita levels of living, on the issue of poverty and prosperity, although it leaves room for secondary emphasis on quantity of population. On the basis of this definition, a country may be underdeveloped whether it is densely or sparsely populated, whether it is a capital-rich or a capital-poor country, whether it is a high-income per capita or low-income per capita country, or whether it is an industrialized or an agricultural country. The basic criterion then becomes whether the country has good potential prospects of raising per capita incomes, or of maintaining an existing high level of per capita income for an increased population.

This definition, while rightly putting emphasis on per capita income and potential for development, includes nations with high per capita income, such as the United States, which no doubt have enormous potentials for economic development, but which are not generally implied in discussions of economic development of underdeveloped areas.

As used in this dissertation, the term underdeveloped will refer to nations or geographical regions with low per capita real incomes. The exact level of income, while open to variation, will generally be considered as on the order of those listed in Figure 1 as under 200 United States dollars per capita annually. This includes both nations of high population density and low population density. And since both population and vacant geographical area must be considered as potential resources for increasing per capita wealth in a nation, the underdeveloped areas are also areas where there is an important potential for economic development.

Agrarian development

Following the definition of economic development, agrarian development

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176. Ibid., p. 98.

in this dissertation will refer to the processes resulting in increased per capita real income and increased per capita welfare for those individuals who are dependent upon the agrarian sector of the economy for their means of livelihood. Agrarian development, by this definition, could occur at the expense of economic development. It is proposed, however, that since a more ultimate end-in-view of any society concerned with agrarian development is economic development, measures intended to foster agrarian development must be evaluated in terms of their effects on general economic development. Measures which, while perhaps effecting agrarian development, would prevent or cause a retrogression in economic development must be rejected. Valid agrarian development can only be considered that development which will at the same time foster, or at least not harm, economic development. It must be mentioned, however, that the principle of proportionality must be applied here, since some measures for agrarian development which would retard per capita increases in real income or welfare in some other sectors of the economy might still be deemed desirable for the whole nation because of the effect they would have on per capita income and welfare of the agrarian population.

Agrarian reform

The concern of this dissertation is to demonstrate the inseparability of agrarian reform from overall economic development.

In much of the current literature concerned with agrarian reform, strict definitions are not proposed. Most generally they are implied in the context of the writing. Thus in Land Reform, Defects in Agrarian

Structure as Obstacles to Economic Development[177] no definition of any sort is proposed.

Jacoby[178] defines agrarian reform to include:

> . . . all organized action designed to improve existing systems of land tenure, e.g., improvement of tenure legislation, consolidation of fragmented holdings, tenancy reforms, and the breaking up of large estates by transfer of ownership (redistribution of land). The full effect of land reform, however, can only be obtained if it is accompanied by improvements to other closely related parts of the economic and social systems, such as credit facilities, marketing, taxation, and education.

For the purpose of this dissertation, agrarian reform will be taken to mean changes in the structure of agrarian institutions consciously undertaken to improve the efficiency of agricultural procedures as a means of achieving both the economic and noneconomic objectives of agrarian development. Agrarian reform may be undertaken to promote agrarian development by accomplishing either one or both of the following effects: (1) an increase in per capita income and welfare and a more widespread distribution of total agricultural income because of increased efficiency of production through institutional adjustments; or (2) an increase in per capita welfare arising from a more widespread distribution of the control over the resources used for agricultural production, providing farmer resource owners are adequately compensated.

Agrarian reform will be viewed as including any of the following kinds of changes in institutional structure:

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177. United Nations Department of Economic Affairs, Land Reform, Defects in Agrarian Structure as Obstacles to Economic Development.

178. Jacoby, op. cit., p. 2.

1. Land reform. A reorientation of the control of land. Land tenure exists as a relationship between men concerning an area of earth's surface. Land reform most often consists of a transfer of the ownership rights to specific parcels of land from individuals holding larger amounts than they themselves can farm in the prevailing agricultural custom of the area, to farmers who hold by virtue of the reform no more than the amount they themselves can cultivate. But this shifting of ownership is not necessary; a number of non-ownership alternatives to effect a land reform can be proposed. A land reform may consist solely of consolidating and rationalizing scattered parcels of land belonging to various owners.

2. Adequate provision for credit. Necessarily vague, this must be fitted to suit the needs of the individuals who can use economically more capital resources than they own (a situation arising, perhaps, through the operation of a land reform.) Modern agricultural economists have placed a crucial emphasis upon the provision for adequate credit, recognizing that individual farmers will be unable to assume larger responsibilities of organization and cultivation without access to sources of credit. The recent interest among agricultural economists in problems of rural credit in underdeveloped areas is perhaps best demonstrated by the

recent International Conference on Agricultural and Co-operative Credit.[179]

3. Available information. Modern agricultural economists have more and more recognized that a readjustment in the pattern of ownership or of other agrarian institutions must be accompanied by methods of dissemination of agricultural information which will enable the individuals assuming enlarged responsibilities to organize their holdings efficiently and to assess alternative opportunities which may be available. The usual mechanism proposed for this is some form of agricultural extension service modeled after the methods used in more advanced nations such as the Agricultural Extension Services in the United States and the National Agricultural Advisory Service in the United Kingdom.

4. Adequate legal safeguards for small cultivators. An agrarian reform must include adequate provision for sound titles to land which enable the individual cultivator to have clear and unequivocable rights, explicitly stated, on his land. Boundaries must be clearly defined. Small cultivators should have adequate legal redress in some manner not beyond the reach of their financial resources. Taxes must be levied according to net incomes derived from agriculture,

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179. See Thomas C. Blaisdell, Jr., Elizabeth K. Bauer, Henry E. Erdman, and Irving F. Davis, Jr., Farm Credit in Underdeveloped Areas (Berkeley: University of California, 1953), 108 pp.

perhaps progressively, and assessments open to effective means of appeal.

It must be noted that while every agrarian reform need not have included within it all these elements, no agrarian reform can be as successful as potentially possible in permanently increasing the per capita income and welfare of people in rural areas if these general types of institutional adjustments have not been adequately considered in the planning stage.

The effects of agrarian reform are generally seen as operating through appealing to the pride of ownership which comes to individual farmers who are secure in their rights, through a better allocation of resources of production which can come through more adequately conceived tenure, tax, and marketing systems, and through operation of the farm enterprise closer to the optimum efficiency through improved information.

It is convenient to follow Clark's[180] classification of economic activities which has become widely accepted since its publication in 1940. He defines the "primary" class as including "agriculture, livestock farming of all kinds, hunting and trapping, fisheries, and forestry;" "secondary" industry "is defined to cover manufacturing production, building and public works construction, mining, and electric power production;" "tertiary" activities include "commerce and distribution, transport, public administration, domestic, personal, and professional services." Clark[181] points out that the products of the primary and secondary

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180. Colin Clark, The Conditions of Economic Progress (London: Macmillan and Co., 1940), p. 337.

181. Ibid., p. 339.

industries are generally transportable while the output of the tertiary activities are not. Likewise, he asserts:[182]

> The basic difference between primary and secondary types of production has always been, it is supposed, that the former is subject to conditions of diminishing return and the latter to conditions of increasing return.

With this sketch of the growth of economic development concepts and the modifications upon the assumptions of established economic theory which modern thinking has made, attention may be turned to elaborating factors which affect economic development.

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182. Colin Clark, The Conditions of Economic Progress (London: Macmillan and Co., 1940), p. 337.

NECESSARY CONDITIONS FOR ECONOMIC DEVELOPMENT: METHODS AND CONTENT

From the review of the factors discussed in current literature dealing with the problems of economic development in underdeveloped areas, it is possible to elaborate a group of necessary conditions for economic development.

The necessary conditions proposed are: (1) the subsistence norm; (2) factor rewards in accordance with productivity; and (3) increased efficiency of labor to which contribute increased efficiency of capital, increased efficiency through adjustments of economic institutions, increased efficiency through adjustments in social institutions, and increased efficiency through dissemination of information.

Economic theory has dealt principally with the allocation of resources to alternative ends under a group of ceteris paribus and simplifying assumptions. More recent economic thinking--in the tradition of the earlier economists--has paid more attention to the setting in which economic activity may be expected to take place. There has been an explicit recognition that the allocation of power within a society is inextricably bound with economic development,[1] and there has been an increasing awareness that, as the society mobilizes its forces for economic development,

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1. See John Kenneth Galbraith, American Capitalism, The Concept of Countervailing Power (Boston: Houghton Mifflin Company, 1952), 217 pp.

the dissemination of information--a function of tradition in earlier societies and assumed perfect in much of micro-economic theory--must now be consciously undertaken and the costs recognized.

It should be noted that the necessary conditions for economic development suggested in this chapter do not constitute a theory of economic development. Economic progress has, however, followed the course which the conditions recognize, and within the foreseeable future it is reasonable to expect the same course to be continued. Local differences, complications introduced by international trade, and the very generality of the necessary conditions themselves make them guides, however, and not absolutes. While these conditions appear to meet the necessary tests, they may not meet the tests of sufficiency. Additional conditions necessary to economic development may well be revealed by subsequent inquiry.

While the conditions do represent necessary guideposts they are not necessarily causes of economic development. They provide, rather, "ends-in-view" with which to focus analysis of economic development. In this capacity they can be utilized in attempting to evaluate the effectiveness of any specific agrarian change in contributing toward economic development. The necessary conditions do not, however, provide a fine line of adjustment nor a basis for highly specific criticism.

Frame of Reference

The very complexity of the problems of economic development which have prevented the emergence of an adequate theory is the best demonstration of the need for such a theory.

A theory may be termed an abstraction generalized to indicate the

relations between the facts or events of a process--in this case the process of economic development. It is elaborated in order to "explain" what has happened and to predict possible consequences of a particular course of action. As an abstraction from reality, it, of course, would fail to explain all possible phenomena of the process itself. The necessity for a theory formed by abstraction from reality arises from the limitations of the human mind which cannot comprehend all the myriad ramifications of reality.

Since a theory is a creature of logic, it may, of course, be "true" given its assumptions, and yet not apply to the world about us because its assumptions are too restrictive, too unreal, or even false.

Furthermore, as Schickele[2] points out:

> Theories in economics and other social sciences are always fitted into some set of values. Since to be relevant, economic theories must deal with human behaviour, they cannot escape such entanglements with value judgements. People live by beliefs and act upon them. It is the economist's obligation to deal with them explicitly and objectively.

This inherent involvement has been harnessed to provide a powerful tool for Western research and thinking. Social scientists have held a concept of teleological change which has given them a sense of direction in their inquiry. With this in mind, the basic function of research becomes problem-solving--resolving a problematic situation into a determinate one: Salter[3] writes:

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2. Rainer Schickele, "Theories Concerning Land Tenure," Journal of Farm Economics, Vol. 34, No. 5 (December, 1952), pp. 734-744.

3. L. A. Salter, Jr., "The Content of Land Economics and Research Methods Adapted to Its Needs," Journal of Farm Economics, Vol. 24, No. 1 (February, 1942), pp. 391-396.

> Scientific inquiry must ultimately be related to the solution of experienced problems; its significance judged on the basis of its contribution to that solution; and its final test of validity set in the result obtained when the conclusions are put to test in purpose action.

Research is based on one vast, underlying assumption: men can know. Furthermore, when they have an adequate understanding of their world, they can solve its problems. This research has been very fruitful as the society has developed, yielding what has come to be termed "science." The research and the attempt to codify the values of the civilization have been set in the framework of a democratic-humanitarian society. The manner in which researchers have chosen to reach their ultimate goals--and indeed those goals themselves--imply democracy. Griswold[4] suggests that since "democracy draws no distinction between ends and means," the solution to its problems must be "induced by democratic means."

As a framework and a logic for codifying goals, John Dewey has proposed what he terms the "means-ends continuum." In this continuum, as interpreted by Timmons,[5] ends perform a "twofold function in social inquiry." They serve to establish the norm from which may be determined the problematic situation as "the gap between the norm and the present situation." Secondly, ends serve "as criteria for evaluating particular means" to determine the extent to which the means yield consequences which narrow the gap or reduce the difference between the present and the desired situation.

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4. A. Whitney Griswold, Farming and Democracy (New York: Harcourt Brace, 1948), p. 3.

5. John F. Timmons, Philosophy and Methods of Inquiry into Land Problems, Unpublished manuscript.

Dewey[6] writes:

> An idea of an end to be reached, an end-in-view, is logically indispensable in discrimination of existential material as the evidential and testing facts of the case. Without it, there is no guide for observation; without it no one can have a conception of what one should look for or even is looking for. One "fact" would be just as good as another--that is good for nothing in the control of inquiry and in formation and settlement of a problem.

Within this context, every immediate goal or end becomes an end-in-view in relation to a more ultimate goal until the basic ends are reached. Each end-in-view can be looked upon as a means to reach another end-in-view. Timmons[7] diagrams the situation as shown in Figure 5.

In the use of this logical framework, several points can be emphasized. First, conflict between ends-in-view must be resolved in terms of more ultimate ends-in-view. In most instances several ends-in-view will contribute directly (that is, serve as means for reaching) a given, more ultimate end-in-view. The extent to which each is emphasized and the criteria for balancing one end-in-view against another are the more ultimate ends-in-view. This balancing of the system is essential if the continuum

BASIC ENDS <--------means

(end-in-view) <--------means

(end-in-view) <-------means

Figure 5. The means-ends continuum

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6. John Dewey, Logic, The Theory of Inquiry (New York: Henry Holt and Company, 1938), p. 497.

7. Timmons, op. cit., p. 7.

is to have consistency and to serve as an analytical framework for thinking in economics.

Secondly, there are many routes or means to reach a given end-in-view. Some routes or means may exclude others. The choice between routes or means is made, again, in terms of more ultimate ends, and the balance will depend to some extent upon individual evaluations.

Goals or ends which are articulated from society should provide a framework within which the economist sets his problems, analyzes the causes, and tests proposed solutions (remedial hypotheses). At present this means-ends process involving the articulation of societal ends is "exceedingly difficult," as Schultz[8] points out. The ends-in-view of society are vague, inconsistent, and "all too seldom" form "integral parts of an integrated system of means and ends." One of the tasks faced by economists concerned with the problem of fostering economic development is to make clear conflicts between ends-in-view (i.e., means) by his anlaysis in order that society may make a considered choice in view of the facts and their underlying assumptions.

The task of economic research is to determine meaningful generalizations which will enable progress to be made along paths which lead to the accomplishment of goals. This is the task of what Friedman,[9] following a suggestion of Keynes, terms "positive economics." The task of this positive economics "is to provide a system of generalizations that can be used

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8. T. W. Schultz, Production and Welfare of Agriculture (New York: The Macmillan Company, 1949), p. 3.

9. Milton Friedman, Essays in Positive Economics (Chicago: The University of Chicago Press, 1953), p. 4.

to make accurate predictions about the consequences of any change in circumstances." It is "in principle independent of any particular ethical or normative judgements."[10]

On the other hand, Friedman[11] follows Keynes' suggestion that a normative science is "a body of systematized knowledge discussing criteria of what ought to be" and points out:

> Normative economics and the art of economics . . . cannot be independent of positive economics. Any policy conclusion necessarily rests on a prediction about the consequences of doing one thing rather than another, a prediction that must be based--implicitly or explicitly--on positive economics.

To Friedman, normative economics involves the application of positive economics to the means-ends framework which Dewey proposes. His normative economics becomes an important responsibility for the economist. Given the goals of a society as they exist and the confusions as they are, the economist must use his finest tools of positive economics to specify changes necessary to reach goals and the direction suggested changes will lead, and to point out conflicts in the means-ends continuum. This is a task no amount of concern about value judgements can excuse the economist from. It takes his kind of training and his familiarity with the tools of positive economics to provide the answers about changes for which society is calling.

To the extent that the factors affecting economic development and the impediments to agrarian development here proposed possess the ability "to provide a system of generalizations that can be used to make correct

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10. Ibid., p. 4.

11. Ibid., p. 5.

predictions about the consequences of any change in circumstances," they are representative of positive economics. When they are applied to specific situations to analyze agrarian reforms, they are normative economics in Friedman's sense.

A slightly different use of "normative" has become current in social science, which might lead to confusion in economic thinking. This is the use in which "normative" or "norm" is a synonym for "standard," or, less frequently, "optimum." For example, Schickele,[12] discussing objectives of land policy, uses norm in this sense:

> How can we spell out these master goals of economic policy in objective scientific terms? We have to establish norms with which concrete situations can be compared, and deviations from which can be measured, at least in proximate orders of magnitude.

In this sense, norm is an end-in-view or goal. It is not necessarily an expression of the value judgment of the individual economist about what ought to be, but is his most adequate estimate of the end-in-view of society. While this may not have the precision scientific workers would like to have, nevertheless these are the kinds of data with which economists must work in applying their knowledge and their technique to relevant problems of the society.

Another use of this concept of normative as a standard comes in research in physical sciences. For example, erosion loss norms become the standard by which soils research evaluates the effect of practices, and by

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12. Rainer Schickele, "Objectives of Land Policy," in John F. Timmons and William G. Murray (eds.), Land Problems and Policies (Ames: The Iowa State College Press, 1950), pp. 5-29.

which associated economic research evaluates economic factors.[13] The use of some normal period in assessing the "fairness" of prices received by farmers has long been embodied in the parity formulas which have been the results of careful research in agricultural economics, and, in another area, provide a basis for research on risk and uncertainty.[14]

It would seem better to confine the use of the terms "normal," "normative," and "norm" to this sense of "standard," and avoid using them in the sense of "what ought to be" in economic research. In this sense, normative, in principle, involves no value judgment, and the term "normative economics" becomes meaningless since normals or norms become merely another measure used in applying positive economics to determine consequences of change in the means-ends continuum.

A theory, then, involves a working hypothesis to guide action along some particular line toward a stated objective. The use of a theory is as a tool of analysis. Theory enables the economist to separate a process into constituent parts or elements in order to distinguish and relate the parts or elements in such a manner as to predict the changes which may arise from altering circumstances.

Schumpeter[15] writes:

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13. See, for example, John C. Frey, "Some Obstacles to Soil Erosion Control in Western Iowa" (Iowa Agricultural Experiment Station Research Bulletin 391, 1952).

14. See, for example, Earl O. Heady, Economics of Agricultural Production and Resource Use (New York: Prentice-Hall, Inc., 1952), p. 492.

15. Joseph A. Schumpeter, "Theoretical Problems of Economic Growth," The Tasks of Economic History, Journal of Economic History, Supplement 7 (1947), pp. 1-9.

> The first part of the analysis of economic growth consists . . . in deriving concepts of economic growth and devising means of measuring it, or, at least, of establishing criteria by which to judge whether there was, at any given period, growth or contraction.

These concepts of how to measure economic growth or development can then be used within the framework of the theory to compare one relevant observation with another. From these comparisons, either ex ante based upon predictions of the theory or hypothesis, or ex post in evaluating the effects of changes, can be determined the consequences of a change in terms of closing the gap between the present situation and the desired situation as established by the end-in-view.

Clark[16] recognizes this function of comparison as an important activity of economists:

> Purposive scientific generalization differs from the meaningless accumulation of facts only in that the former uses the method of comparison. Comparisons of economic welfare between one community and another, one economic group and another, and between one time and another, are the very framework of economic science.

The necessary conditions of economic development and the resource inefficiencies which are impediments to agrarian development presented in this study do not directly yield methods of statistical measurement from which to construct a detailed econometric analysis. It is to be hoped this will be possible at sometime in the not-too-distant future. For the present, however, the quantitative theoretical basis is lacking.

Since these necessary conditions for economic development may be used to note change, they constitute to that extent a dynamic viewpoint. It is

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16. Colin Clark, The Conditions of Economic Progress (London: Macmillan and Co., 1940), p. 337.

interesting to note in this connection that Schultz[17] suggests:

> It is our belief that the best economists can do on most dynamic problems is to infer the probable direction of the effect of a development and as long as, and to the extent that, this is true, it is exceedingly important to approach the problem of economic organization with this limitation of economic analysis firmly in mind. The implication of this belief is as follows: if it were possible to anticipate (determine) both direction and rate of such effects, the organizational structure could be designed to deal efficiently with the complete information; if, however, the best that we can do were to acquire insights on the direction alone, the appropriate organizational structure needs to have within itself the capacity to use new and more complete information as it becomes available.

In attempting to use these factors for evaluating economic development, it is to be kept in mind at all times that economic development is not the only goal of any society. It is one; it is one of fluctuating importance; but it is never an ultimate, basic end. Boulding[18] recognizes this in suggesting economic development is not "a universal criterion for passing judgement on societies." But, while due weight must be given other possible ends-in-view, economic development is a "significant partial end."

Using the terminology Dewey proposes, economic development can never be more than one of a number of ends-in-view by which a society hopes to pursue its more ultimate ends. Every conflict between other ends-in-view and economic development must be resolved in terms of the more ultimate ends.

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17. Theodore W. Schultz, The Economic Organization of Agriculture (New York: McGraw-Hill Book Company, Inc., 1953), p. 9 n.

18. Kenneth E. Boulding, "Economic Progress as a Goal of Economic Life," in A. Dudley Ward (ed.), Goals of Economic Life (New York: Harper & Brothers, 1953), pp. 52-83.

Staley[19] has proposed an interesting set of goals which he has drawn from his study of economic writings and which he suggests as being the most ultimate goals or basic ends of human endeavor:

> An Adequate Living--"enough" food, clothing, housing, health services, educational opportunities, leisure time, and acceptable working conditions. Adequacy here is a relative idea, of course. . . .
> A Sense of Security--reasonable assurance of personal safety and of stability in essential life conditions, including freedom from violence and from terror and from interruption of the flow of livelihood values. . . .
> A Sense of Freedom and Participation--shared power, that is, opportunity for effective participation in decision-making by people whose lives are affected by the decisions. . . .
> Creative Opportunities--opportunities and stimuli for making the most of human capacity; personal fulfillment, creative expression in the arts and sciences and in individual community accomplishments. . . .
> A Sense of Belonging--fellow feeling, social incentives that emphasize love and cooperation more than hate and conflict, a sense of solidarity in small and large communities, the sharing of aspirations, purposes, and faith which give meaning to life. . . .
> A Sense of Purpose--a feeling that one's life is heading somewhere, confidence in and affirmation of life, a meaningful integration of all the values to which a person or society holds. This has been the special province of religions. . . .

It would seem these goals proposed by Staley could be collapsed into three ultimate or basic goals:

1. Life. This must include something more than a biological concept of a living organism. It includes in addition the concept of security and reasonable assurance of the continued availability of other basic ends. It includes the sense of purposefulness and the feeling of a basic meaning in life, for without this meaning mere biological living becomes of less than ultimate value.

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19. Eugene Staley, The Future of Underdeveloped Countries (New York: Harper & Brothers for the Council on Foreign Relations, 1954), p. 93.

2. Liberty. This must include both freedom from physical coercion and also freedom from fear of coercion and freedom from mental coercion.
3. Opportunity. The chance to create, to accomplish, to contribute, and to achieve personal expression are all included in this goal.

These basic goals pose the ultimate criteria by which economic development might be evaluated.

It would seem these basic goals are common to all of mankind. If they were not, there would be no fundamental basis upon which groups of men with different basic ends could evaluate alternative courses of action to be undertaken co-operatively. Likewise, without common basic ends there would be no fundamental common criteria by which to resolve the conflicts in means adopted by different groups.

Progress in economic development (and thus toward realizing more basic ends) is a process of progressively narrowing the gap between the present situations in a society and desired situations.

Economists, of course, widely recognize this place of economic development in the means-ends continuum, although often not in that terminology. For example, Schumpeter[20] writes:

> Economic growth is not an autonomous phenomenon, that is to say, it is not a phenomenon that can be satisfactorily analyzed in purely economic terms alone. This conclusion imposes itself from a glance at the items of our list [which specifies factors affecting economic growth] and can be avoided only if we adopt the Marxist hypothesis (economic interpretation of history) which achieves this autonomy, in a sense, by making economic

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20. Schumpeter, op. cit., p. 3.

> evolution the prime mover of history in all its aspects. . . . We have to deal with a system of interdependent factors of which economic growth is just one. . . . If we tried to use mathematics, we would immediately run up against the difficulty that some of the most important of these interdependent factors cannot be quantified, not at all events, beyond what is implied in calling them "important" or "unimportant" or "more important" or "less important" than others.

Malenbaum[21] recognizes the possibility of a conflict between economic development and other ends-in-view when he suggests "economic efficiency may be bought at a price which is too high in terms of social, political, legal, and cultural changes."

Witt[22] cautions economists to "view economic development in terms of the broad problems the world faces today, not as economic development alone."

The above discussion demonstrates the logical necessity of judging economic development in terms of more basic goals. It follows that agrarian development, likewise, cannot be considered an independent goal, but must be evaluated in terms of economic development and ultimately in terms of the basic ends of society. Similarly, agrarian reform cannot be evaluated solely in terms of its influence on agrarian development, but must also be evaluated in terms of its influence on overall economic development. This can be clearly seen in the framework of the means-ends continuum.

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21. Wilfred Malenbaum, "Economic Doctrines Implied in U.N. Reports--Discussion," American Economic Review, Vol. 44, No. 2 (May, 1954), pp. 600-604.

22. Lawrence Witt, "Problems of Underdeveloped Areas--Discussion," Journal of Farm Economics, Vol. 33, No. 4, Pt. 2 (November, 1951), pp. 705-708.

In the context of the continuum, it becomes clear that not all economic or institutional change is progress toward economic development nor toward achieving the basic ends of society. Since, as Boulding[23] points out, "not all change is progress, but without change no progress is possible," the continuum provides the framework with which to evaluate specific changes and to relate them to achieving the end-in-view of economic development and the basic ends of society.

In dealing with these factors affecting economic development, it has been noted that they are all interrelated. There is, therefore, a problem of balancing achievement of one goal with the achievement of another. That is, not all goals can be maximized at one time.

Timmons[24] points this out when dealing with land tenure policy goals. The problem becomes one of achieving "symmetry and perfection of balance" among ends-in-view or means, he suggests, noting that the solution is very difficult. To help achieve the balance, he proposes an application of the concept of proportionality, "not of factors of production, . . . but of the tenure goals, giving ample consideration to the limiting and complementary interdependence" which exists among them. Used in this manner, he suggests the concept of proportionality might become as useful a tool to the social scientist in combining social goals and formulating "desirable public policy" as it has been to the entrepreneur in combining factors of production within the firm.

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23. Boulding, op. cit., p. 60.

24. John F. Timmons, "Land Tenure Policy Goals," The Journal of Land & Public Utility Economics, Vol. 19, No. 2 (May, 1943), pp. 165-179.

Staley[25] notes this problem in discussing what he terms "successful economic development" which is a "multi-valued goal." The pursuit of this multi-valued goal involves a problem of balance, for the requirements of "one objective may conflict with those for another."

Even among the basic ends of society there must be symmetry and adjustment. To achieve an optimum fulfillment of the goal of opportunity may mean restriction of individual liberty, a principle long recognized in Western democracies. An intertemporal problem of symmetry may also arise. In time of war, a society may choose to restrict individual liberty or opportunity in the present in order to assure a military victory which will enable a greater fulfillment of the basic end of individual liberty in the future. The decision to draft men for military service may be viewed as an intertemporal choice between life for an individual in the present and life, liberty, and opportunity for other individuals in the future. It is to be expected, of course, there will be constant compromise in balancing ends-in-view which are not basic ends.

In economic theory two important systems to determine the proportion of factors, or the optimum use of factors, have been proposed.

In his discussion of the theory of the firm, Hicks[26] elaborates one system of equilibrium conditions for the firm under conditions of perfect competition:

1. [Marginal conditions]
   (a) The price-ratio between any two products must equal the marginal rate of substitution between the two products.

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25. Staley, op. cit., p. 94.

26. J. R. Hicks, Value and Capital (2d ed.; Oxford: The Clarendon Press, 1946), p. 86 ff.

(b) The price-ratio between any two factors must equal their marginal rate of substitution.
(c) The price-ratio between any factor and any product must equal the marginal rate of transformation between the factor and the product.

2. Stability conditions
(a) Diminishing marginal rate of transformation or diminishing marginal product for the transformation of a factor into a product.
(b) Increasing marginal rate of substitution for the substitution of one product for another.
(c) For the substitution of one factor for another, diminishing marginal rate of substitution.

3. The average cost of producing each product must be rising and the average cost of producing each group of products must be rising.

Little,[27] dealing with the "new" welfare economics, elaborates a second system of "optimum conditions of production and exchange" which are "necessary conditions for a maximum of welfare in a community, and . . . sufficient conditions for a desirable economic change." (He cautions that "the latter sense is the only one which is regarded as being of any possible practical significance.")

Little postulates "a fixed stock of 'goods' to be distributed between a number of 'individuals.'" He then specifies the following conditions for the optimum:

1. "Optimum" conditions of exchange
(a) The marginal rate of substitution between any two "goods" must be the same for every "individual" who consumes them both.
(b) There must be equality of the marginal rate of substitution between "leisure" and any given consumption "good" for all "individuals" who "work" and consume that "good."
(c) The marginal rate of substitution of one kind of "work" for another must be equal for all "individuals" who do both kinds of "work."

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27. I. M. D. Little, A Critique of Welfare Economics (Oxford: The Clarendon Press, 1950), p. 120 ff.

2. "Optimum" conditions of production
   (a) The ratio of the marginal products of any two "factors of production" must be the same for every "good" in the production of which they both co-operate.
   (b) The marginal rate at which one "good" can be transformed into another must be equal to the "individuals'" common marginal rate of substitution one for the other.
   (c) The rate at which "work" can be transformed into any given "good" must equal the marginal "individual" rate of substitution of "leisure" for consumption of that "good."
3. "Optimum" conditions of saving and investment
   (a) There ought to be the same marginal rate of substitution between money and any given good for all individuals who consume both.
4. The rate at which any given present good can be transformed into the same good, at some given future date, ought to be equal to the common marginal rate at which individuals are willing to substitute one for the other.

Both the Hicks and the Little conditions are extremely restrictive in their assumptions--too restrictive to be applied as they exist with precision and certainty to problems of economic development. Yet they both represent explicit statements of means to balance a group of factors to reach an optimum, the one to maximize efficiency of a firm in respect to its given production and market situation and the other to show the means to reach an optimum distribution of welfare in a community. As such they point the way for more practical action, even though the strict assumptions are not fulfilled and thus the conditions cannot be applied exactly, even if adequate data were available.

Since the goals of economic development and agrarian reform include both improvement of the adjustment of the individual firm to the situation about it, and the optimum distribution of welfare--in addition to overall advancement in levels of production and welfare--these two important contributions have relevance in theoretical discussion of economic development and agrarian reform. They are suggested as important indicators of the

direction in which research can be channeled to yield fruitful guides for reaching a position of optimum, given different goals, not all of which can be maximized at any one time. Perhaps similar theoretical research can elaborate criteria for reaching an optimum rate of agrarian or economic development.

Before economic development can be seriously undertaken in underdeveloped areas, certain "pre-conditions" must exist in the minds of the people.

While impatience and a desire for a rapid betterment are readily sympathized with, nonetheless, substantial economic development is a long-term process from which only a relatively few fruits can be expected even in such a period as 5 years. Clark[28] cites some very interesting data which indicate that progress in Western Europe has been slower than commonly realized. Drawing on data collected by Jevons from records kept in ancient Athens of 328 B.C., he compares the level of living of free workers on the temple at Eleusis with the level of living of British workmen in the decade 1925-34. The levels of living, he finds, are not much different. Clark[29] concludes:

> There appears to be some evidence for the belief that, so far as economic advancement was concerned, the world has only comparatively recently got back to the level which was enjoyed by, at any rate, the free half of the population in classical times.

There must be a willingness, too, to accept change itself, seemingly an axiomatic consideration in economic development, but even in a society

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28. Clark, op. cit., p. 168.

29. Ibid.

where economic development is desired, the price of change may be considered too high. But, as Gadgil[30] points out:

> Concern with economic development . . . implies readiness to accept the process of rapid development as a desirable process. Rapid development connotes change in a variety of ways for large numbers of people. It means change in the traditional organization of production; it means rapid acceptance of change in techniques as a normal and continuing process, acceptance of a change of occupation; and a change-over to urban surroundings for a large number of people and other concomitant changes. Readiness to accept change, to be mobile in occupation, habits, and habitat is a necessary condition precedent of rapid economic development. This might not be fully thought-out or understood in these terms in the underdeveloped countries. . . .

Economic development will require more than a passive acceptance of change. Allen[31] suggests that while economic development may be initiated under many circumstances, "it is fertility in resource and imaginative enterprise which lie at its root." When these qualities are given the opportunities to exercise themselves, "obstacles to progress are readily overcome."

Viner[32] recognizes that underdeveloped nations need active help and co-operation from the nations which enjoy a more advanced standard of living, but adds:

> Given, however, the utmost help from these external factors which there is reasonable ground to expect, the problem will not even begin to have a practicable solution unless the underdeveloped countries dedicate their own resources, human, physical, and financial, to a sound, large-scale, and persistent attack on those basic internal causes of mass poverty. . . .

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30. D. R. Gadgil, "Pre-Conditions of Economic Development," Indian Economic Review, Vol. 1, No. 1 (February, 1952), pp. 14-20.

31. G. C. Allen, "Economic Progress, Retrospect and Prospect," Economic Journal, Vol. 60, No. 289 (September, 1950), pp. 463-480.

32. Jacob Viner, International Trade and Economic Development (Oxford: The Clarendon Press, 1953), p. 119.

Gadgil,[33] drawing from his own knowledge of his homeland of India, recognizes the obstacles to progress which lie in the way of underdeveloped nations. He specifically points out taboos and prohibitions; beliefs arising "not out of any religious or social" creeds but merely out of "traditional modes of life fixed through generations of comparatively static economic conditions;" and the problems of learning to deal with "unscrupulous money-lenders and traders" who prey on new urban dwellers. But, he asserts:

> In the recent demand for rapid economic development by underdeveloped countries two ideas are implicit: there is firstly the urge for an increase in economic wealth and in admitted low standards of living and, second, the belief that a planned effort with or without foreign aid can achieve this.

And he concludes, even when one considers all the mental attitudes which must exist in underdeveloped nations if they are to embark upon a successful program of economic development, there can be "little doubt that in most of them the appropriate frame of mind already exists."

With the means-ends continuum in mind, and recognizing the function of research in accomplishing the ends outlined, Figure 6 outlines such a continuum with emphasis on the ends-in-view of economic development and agrarian reform.

Necessary Conditions for Economic Development

Necessary conditions for economic development can be proposed which yield certain criteria or norms for analyzing and evaluating alternative proposals for economic and agrarian development. These factors reflect

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33. Gadgil, op. cit., p. 14.

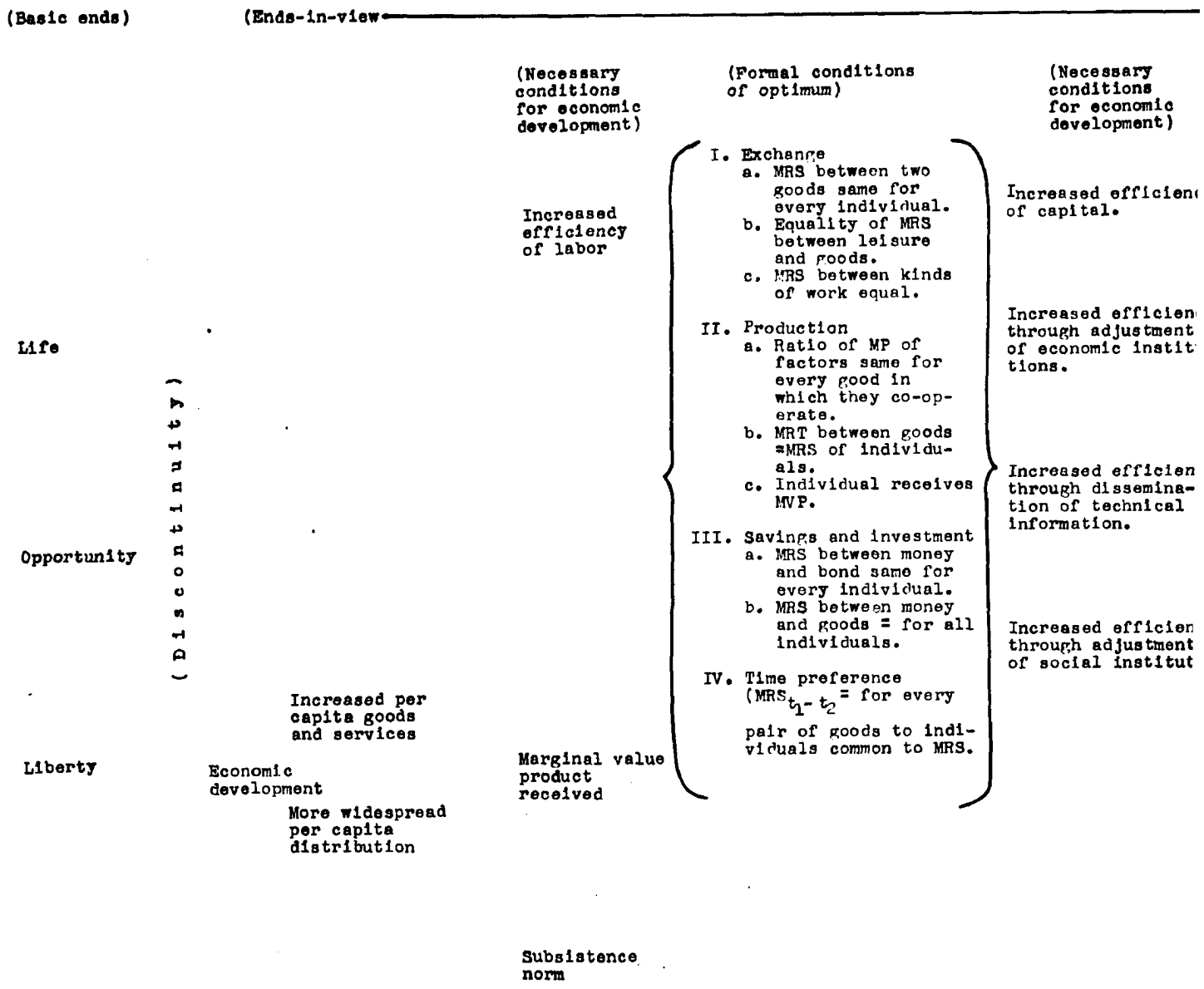

Figure 6. Means-ends continuum

(Formal conditions of optimum)	(Necessary conditions for economic development)	(Institutional impediments to agrarian development)	(Examples of specific means)
I. Exchange a. MRS between two goods same for every individual. b. Equality of MRS between leisure and goods. c. MRS between kinds of work equal.	Increased efficiency of capital.	Resource inefficiencies engendered by uncertainty arising from conditions of tenure.	Malaria control education.
		Resource inefficiencies engendered by high fixed costs to the operator.	Land redistribution. Land title settlement. Taxation adjustment. Industrial development.
II. Production a. Ratio of MP of factors same for every good in which they co-operate. b. MRT between goods =MRS of individuals. c. Individual receives MVP.	Increased efficiency through adjustments of economic institutions.	Resource inefficiencies engendered by noncontiguous tracts.	
		Resource inefficiencies engendered by undersized holdings.	
	Increased efficiency through dissemination of technical information.	Resource inefficiencies engendered by lower uses of land arising from the pattern of ownership.	Extension services. Technical schools. Research.
III. Savings and investment a. MRS between money and bond same for every individual. b. MRS between money and goods = for all individuals.		Resource inefficiencies engendered by lack of secure title to land and water rights.	Development of external economies. Fiscal controls. Capital export controls.
		Resource inefficiencies engendered by high fixed cost of operating capital.	Technical advice.
IV. Time preference ($MRS_{t_1 - t_2}$ = for every pair of goods to individuals common to MRS.	Increased efficiency through adjustments of social institutions.	Resource inefficiencies engendered by high fixed costs to the owner.	Socially acceptable control of population increase.
		Resource inefficiencies engendered by lack of legal machinery.	Revision of taboos against economic institutions.
		Resource inefficiencies engendered by lack of knowledge.	Equitable administration of regulations and justice.
		Resource inefficiencies engendered by occupational immobility.	Popular government.

(Direction of arrow)

Figure 6. Means-ends continuum

the thinking current in the literature dealing with economic development.

The necessary conditions proposed in this study are derived with the economic development of underdeveloped areas in mind, although they could be applied in economically more developed nations. In that case, however, the principle of proportionality might lead to different emphases. While the necessary conditions proposed in this study appear to meet the necessary tests, they may not meet the tests of sufficiency.

These necessary conditions are obviously quite general in their nature and their use as evaluative norms is not precise. Nonetheless, they do provide a useful framework for evaluative thinking about agrarian reform in the lack of an adequate theory of economic development. In this connection, as Long[34] has been cited as suggesting, "it is better to lose precision than to lose relevance."

This lack of precision, moreover, may not be as serious as it would be in other areas of economic thinking since the tools and statistical series which presumably would be utilized in applying a more precise theory are lacking, and as yet only broad trends can be recognized.

The definition of economic development proposed for this study includes the concept of sustained increase in the output of goods and services. The increase as such is an essential element of the concept. If output remained constant and available goods were more widely shared this could not be construed as economic development. Having undergone

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34. Erven J. Long, "Some Theoretical Issues in Economic Development," Journal of Farm Economics, Vol. 34, No. 5 (December, 1952), pp. 723-731.

rationing, who could think of that as economic development? Wider distribution without increasing production is only sharing, not reducing scarcity.

Sometimes it is suggested lower prices are an indication of economic development. This is not necessarily true. However, lower relative prices which reflect lower real costs in terms of human effort have relevance to the concept of economic development. Lower real costs for material goods may allow greater consumption of goods and services, including such services as improved educational and recreational facilities, or enable the choice of more leisure.

Thus, even under conditions of a stationary population, it is impossible to conceive of economic development without increasing output in some form. In underdeveloped nations, the most important form probably would be increasing output of material goods including foods and those goods which directly affect such non-material components of the level of living as health.

These considerations have led to the choice of phrasing several of these necessary conditions for economic development in terms of increased efficiency, for it is only by means of greater efficiency (i.e., increased economy in the use of productive agents) that total output can be increased to provide for an increased level of living for increased numbers of people.

The idea of efficiency is most rigidly defined in the field of mechanics where it is used to describe the ratio of useful work or effect produced to energy expended in producing it. With some modification, the same idea may be carried over into concepts of economic development.

Reference to increased production being obtained by greater economy in the use of productive agents in this study will mean simply more units of output for given use of labor, capital, equipment, managerial talent, raw materials, and other factors of production. Efficiency as a descriptive concept is not complex; the difficulties arise in the specific definition and measurement of the output and input concerned. To the extent savings in the factors of input can be made through new or improved processes, new or improved methods of organization, or improved quality of productive factors it is possible to achieve increased amounts of goods and services. The advantage of thinking in terms of increased efficiency is the indication of the relationships involved, a first step toward the complex problems of measurement.

On the other hand, phrasing the factors in terms of increased efficiency must not be mistaken as implying that the only goals are material. In current thinking devoted to economic development, increased material output is the major consideration. But economic development is only one of the goals of society, as emphasized earlier and as the means-ends continuum indicates. Thus there is room in the concept of increased labor efficiency to realize non-economic considerations may mean the most efficient material output from the strictly physical standpoint is not necessarily the most desirable output for the society.

The conditions necessary for economic development are discussed below.

Subsistence norm

In the concept of economic development is included a concept of a minimum human level of living which the society will tolerate. Below this level, the society may decide to make direct income transfers without

reference to the contribution of the individual to the life of the society. The exact level which becomes the subsistence norm in any given society must, of course, depend upon the values of that society and the level of economic development. In a fairly advanced society with democratic-humanitarian values, the level may be quite high compared with levels of living common in underdeveloped areas. The minimum acceptable levels in the United States, Canada, and Great Britain, below which the society makes direct income transfers, illustrate this point. On the other hand, in economically underdeveloped areas in Asia, the total resources of the society may not be enough to enable such a subsistence norm to be established, even though the value system regarding human life may be the same.

More than food and clothing are included in this concept. In a society where economic development is an important goal, a minimum level of education is often considered the responsibility of the society. Some societies consider a minimum of medical attention as part of the subsistence norm concept.

Similarly, a society may consider unemployment compensation as a societal responsibility. The level of living made possible by this compensation may be well above the minimum level considered desirable for individuals making no contribution to the society or who have no talents to develop.[35]

Factor rewards in accordance with productivity

A second condition necessary for economic development is derived from

35. See Rainer Schickele, "Optimum Income Distribution as a Goal of Public Policy," American Journal of Economics and Sociology, Vol. 3, No. 3 (April, 1944), pp. 454-478.

the formal conditions of optimum of Hicks and Little as discussed earlier. Schickele[36] prefers to refer to this as the "incentive" principle, but phrasing the condition in this manner makes the relationship to economic theory more apparent. This condition is necessary if an individual worker or entrepreneur is to have the economic incentive to allocate resources in the manner which will most nearly produce the optimum social product. If the individual does not receive the marginal value of his contribution, not only does he fail to have the incentive he needs to produce the optimum product, he has incentive to allocate resources in such a manner as to prevent optimum production. This principle becomes quite important in analyzing the kinds of adjustments in agrarian institutions which are desirable to overcome resource inefficiencies. In an instance in the society where the individual resource contributor fails to receive his full marginal contribution, he will not have the economic incentive to produce at the optimum factor combination. This may occur in instances where ruling individuals wield coercive power, as is the case in the Soviet Union or on the latifundia of Latin America. It may also occur where there are defects in institutional structures, such as insecure tenancy, excessively large share rentals, or uncertainty about title. (It should be noted that taxation applied equitably and uniformly does not change the effect of marginal value as a criterion for allocating resources, although it may affect the level of return to the resource contributor.)

Increased efficiency of labor

As pointed out earlier, in many underdeveloped nations the dominating

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36. Ibid., p. 465.

element in the factor endowment is labor. An effort directed toward increased efficiency of this major resource, to the extent it is successful, will have a beneficial influence on economic development. Increased labor efficiency, particularly through the use of better technology, is often the most important immediate step toward economic development which an underdeveloped nation may attempt. Increased labor efficiency in agriculture is obviously important in underdeveloped nations where agriculture is such an important sector of the economy. DeGraff,[37] for instance, points out the most common agricultural implement in Mexico is still the wooden plow--"hardly more than a crooked stick affair, made with no iron or steel except perhaps three of four pounds on the point and a clevis at the end of the beam." Small steel plows selling for the peso equivalent of 9 or 10 dollars do a "much better job of preparing a field for seeding." Likewise, the increased output from only small applications of insecticides, herbicides, and fertilizers can be very large.

The importance of improved labor efficiency is not confined to underdeveloped nations, nor to such obvious examples. Following World War II, the British, faced with a task of economic development to regain their place in world trade, sent so-called "productivity teams" to the United States to study techniques of production in various industries. These teams were most concerned with means to increase the efficiency of labor.[38]

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37. Herrell DeGraff, "Some Problems Involved in Transferring Technology to Underdeveloped Areas," Journal of Farm Economics, Vol. 33, No. 4, Pt. 2 (November, 1951), pp. 697-705.

38. "Productivity: New Developments in Britain's Drive," British Record, 1953-22 (December 16, 1953), p. 2.

Woytinsky and Woytinsky[39] point out that "per capita income is closely correlated with output per worker." They cite data which indicate productivity in terms of "net income originated per worker in manufactures and handicrafts" in 1948. These figures range from $4,110 in the United States and $3,600 in Australia, through $1,450 in the United Kingdom and $520 in the Soviet Union to lows of $265 in Africa, $200 in India, and $175 in China and Korea.[40] The world average is some $900. These data rank the various nations in a manner closely in accord with rankings of economic development suggested by the same authors. The two leading countries have an agricultural-industrial economy, while the three bottom nations are in the lowest rank of the prevailing subsistence economies.[41]

It is obvious that labor, as one of the most abundant resources immediately available in underdeveloped nations, offers a fruitful potential for furthering economic development. An effort to increase the efficiency of labor, of course, immediately involves the other necessary conditions for economic development.

Increased efficiency of capital

Capital usage becomes of crucial importance in thinking directed toward economic development in underdeveloped areas. Its relationship to increased efficiency of labor is obvious, for the means to increase labor efficiency usually involve some capital, although certain kinds of increases

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39. W. S. Woytinsky and E. S. Woytinsky, World Population and Production (New York: The Twentieth Century Fund, 1953), p. 440.

40. Ibid., p. 1012.

41. Ibid., p. 434.

in labor efficiency can be accomplished with a fairly small added amount of capital.

The provision of capital has provided a major stumbling block up to the present time in initiating developmental programs. The pattern which existed in 19th century North America where capital transfers on private account came from Western Europe has become so firmly associated with colonialism in most underdeveloped areas as to be unacceptable without modification. On the other hand, the restrictions, fear of expropriation, and lack of internal stability have reduced the incentive on the part of private individuals in more advanced economies to risk their capital in economic development projects.

The obvious capital needs on the part of underdeveloped nations have led to special consideration on the part of economists to the concept of capital in economic development. This consideration has brought to the forefront the problems of mobility and imperfections in the economic system which prevent capital from being used where its marginal return would be greatest and thus its effect on output--its efficiency--greatest. To reduce these barriers and to find means of transferring capital to replace the private account transactions of the 19th century becomes a pressing problem. The barriers to the most efficient use of capital in underdeveloped nations have caused modifications in the concepts of capital from those postulated by economic theory with its simplifying, if useful, assumptions.

Nurkse[42] recognizes this when he writes:

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42. Ragnar Nurkse, Problems of Capital Formation in Underdeveloped Countries (Oxford: Basil Blackwell, 1953), p. 120.

> It might reasonably be supposed that the problems of capital formation in undeveloped areas could best be approached through the theory of international investment. . . . we find that this theory, in its conventional forms, does not throw much light on the particular matters [of capital formation in underdeveloped nations] so far. . . .

The more orthodox concept of the criteria for capital investment to promote economic development derived from economic theory is well stated by Clark:[43]

> In effect we must assess the long-period marginal productivity of capital, that is to say, the increase in annual real income in any community consequential upon an increase in its stock of real capital, other factors remaining unchanged.

More recent thinking on the problem of the most efficient uses of capital in underdeveloped areas would not quarrel on the basic concept that long-period marginal productivity is an important criterion. But recent thinking does recognize major influences which are not constant from one situation to another, nor as development proceeds.

One of the most important modifications in underdeveloped nations is in the area of external economies. Baran[44] points out that in backward areas a new industrial venture often must break "virgin ground." Since it has no functioning economic system to draw upon, "it has to organize with its own efforts not only the productive process within its own confines," but also it must provide "all the necessary outside arrangements essential to its operations."

The concept of external economies has certainly not been unrecognized

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43. Clark, op. cit., p. 374.

44. Paul A. Baran, "On the Political Economy of Backwardness," The Manchester School of Economic and Social Studies, Vol. 20, No. 1 (January, 1952), pp. 66-84.

by economic theory. The concept has, however, received little explicit treatment since external economies are generally assumed to be present in the context of the more highly developed Western economic systems. Adler[45] feels the concept has "never been adequately explored."

In view of the importance of external economies, and the consequent inadequacy of direct monetary returns as a criterion for investment, public or private, recent thinking has attempted to include a broader concept of the criteria for allocating capital most efficiently.

Kahn[46] proposes the relevant criterion for allocating capital in underdeveloped economies, from the point of view of the society as a whole, is:

> . . . social marginal productivity (SMP) taking into account the total net contribution of the marginal unit to national product, and not merely that portion of the contribution (or of its costs) which may accrue to the private investor.

This proposed concept of social marginal productivity raises difficult problems of measurement. Nevertheless, it provides a useful tool for theoretical analysis, even if difficult to apply.

In prosecuting programs of economic development, the problem of allocating the cost of creating external economies is a major stumbling block, even though the marginal benefits to the society as a whole from the external economies far outweigh the cost of the marginal unit of capital.

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45. John H. Adler, "The Fiscal and Monetary Implementation of Development Programs," American Economic Review, Vol. 42, No. 2 (May, 1952), pp. 584-600.

46. Alfred E. Kahn, "Investment Criteria in Development Programs," The Quarterly Journal of Economics, Vol. 65, No. 1 (February, 1951), pp. 38-61.

Singer[47] points out this dilemma:

> The most productive form of development is the systematic creation of those indispensable external economies in economic production, especially in the fields of transport and power. The creation of these external economies is not only fruitless in the sense that it is merely a precondition, albeit an essential one, of useful production; it also implies activities of a peculiarly high capital intensity. Nevertheless, the soundest type of development is the one requiring you to cast your bread upon the waters by expending an enormous amount of capital in the creation of external economies without immediate return.

The existence of this situation sometimes leads an underdeveloped nation with limited resources at its command to skip the creation of the necessary external economies and to engage in premature development projects which fail to attain their full productivity. This sort of inefficient allocation of capital might occur if the strict criteria of the theory of the firm were followed, although ignoring the "other things equal" qualification. In this instance, the concern to yield benefits for which costs may be easily allocated results in inefficient use of capital.

The existence of external economies means the most efficient allocation of capital within a society must come within a framework of balanced economic growth, however modest the scale of economic development. Only by a considered balance of development will it be possible to begin the creation of external economies. There must be balance between agriculture, industry, and international trade, just as there must be balance among elements within each of these areas. An unbalanced program concentrating, say, on a single export operation, "however rapidly expanding, has not ordinarily sufficed to set off and sustain the self-perpetuating, cumulative

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47. Hans W. Singer, "Economic Progress in Underdeveloped Countries," Social Research, Vol. 16, No. 1 (March, 1949), pp. 1-11.

process of economic development," as Kahn[48] has pointed out. He concludes:

> . . . it seems to be true that diversified home market industries, growing together and supplying each other with expanding markets, are essential components of the dynamics of technological progress.

Adler[49] sums up much recent thinking in proposing a group of points to be considered when attempting to determine means of increased efficiency of capital, using the social marginal productivity criterion. He suggests the following points:

1. The advice to lay emphasis on technological improvement in extractive industries is in need of "substantial modification" since it seems it will not "create those external economies which seem to be an essential prerequisite for an accelerated rate of economic development." Agricultural improvements may yield "positive and welcome results in the form of larger availabilities of foodstuffs and agricultural raw materials" but these improvements alone will not set into motion a "cumulative process of development which has characterized the economic history of the countries which enjoy the highest per capita income." A "more appropriate prescription" would appear to be "'balanced growth' of all sectors of the economy."
2. Labor-saving techniques cannot be relied upon for there are discontinuities in the capital output curves. However,

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48. Kahn, op. cit., p. 48.

49. Adler, op. cit., p. 588.

different industries may have different labor-capital ratios--e.g., modern road-building machinery and hand looms.

3. In the formulation of policy, great emphasis must be laid on those community projects which have a high SMP. These projects create what may well be termed "social overhead capital."

4. Because of the lack of external economies, capital applied in such a manner that the marginal return to the individual firm is greatest may not be applied where the SMP is greatest. (But note that in many underdeveloped countries those external economies which do exist tend to be in the export industries and commerce because these fields can draw upon the external economies of the more advanced nations. Thus investment allocated on a basis of marginal return to the individual firm may tend to be concentrated in these fields.)

5. Competitive market forces seem unlikely to give optimum investment given (1) time dimension of the net additional output concept; (2) absence of social overhead capital; (3) imperfections in the factor and product markets which arise from the lack of social overhead capital; and (4) skewed distribution of income and capital.

With the concept of external economies and the criterion of social marginal productivity in mind, a reassessment of investment opportunities has been undertaken in recent literature.

As an example, Bloch[50] points out that capital-saving techniques in the light of the SMP criterion may sometimes justify "methods of production which would appear inefficient in developed countries."

This is not a surprising conclusion even by more orthodox standards of capital allocation, although the justification in terms of SMP is importantly different in that it provides an overall criterion for using capital-saving to obtain increased efficiency of capital.

Many authors almost give up the task of economic development as hopeless in view of the vast amounts of capital often felt essential. However, the efficient allocation of capital must include a recognition that grandiose schemes may not always be those with the highest SMP nor be those which have the greatest effect on total output, given limited capital resources. Sooner or later, of course, the need for heavy investment outlays increases. Bernstein[51] makes clear "not every measure for economic progress requires large investment," citing the increases which "quite moderate capital outlay" may give in agriculture when applied to better seed stock, fertilizer, pest control, and education. In fact, he points out, "the basic concept of the Point IV program is that such opportunities for increasing productivity do exist."

However, the SMP criterion does show there is an economic limit to the substitution of labor for capital which is reached before the

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50. H. S. Bloch, "Economic Development and Public Finance," in Bert F. Hoselitz (ed.), The Progress of Underdeveloped Areas (Chicago: The University of Chicago Press, 1952), pp. 248-258.

51. E. M. Bernstein, "Financing Economic Growth in Underdeveloped Economies," in Walter Heller, Francis M. Boddy, and Carl L. Nelson (eds.), Savings in the Modern Economy (Minneapolis: The University of Minnesota Press, 1953), pp. 267-306.

technological substitution limit is reached. Kahn[52] notes substitution of labor for capital is "seldom entirely costless." Labor usually must be transported, trained, housed, and perhaps offered higher incomes to attract it and to keep it healthy enough to work. Rural labor may have to be retrained to substitute for capital. Therefore, a "substantial complementary investment relative to total output may be required," and "to the extent of these costs of absorbing labor, substitution of capital for labor becomes possible and desirable." The extent of this substitution can be determined only by the SMP of capital in each outlet, as compared with others.

Nonetheless, Kahn[53] insists that in the agricultural sector of the economy, "the opportunity cost of labor may be . . . nil." Thus, he argues, where there is "concealed unemployment" in agriculture and one condition for increased agricultural output is removal of some of the surplus labor, "to the extent such labor is technically substitutable for capital (however wasteful by U.S. standards), the SMP of capital would be nil." If only a small investment were necessary to tap this labor pool, then the SMP would be high for this minimum investment and "nil for any larger, labor-saving expenditure."

In these discussions of the SMP it is generally recognized, as Adler[54] points out, that capital includes such "current expenditures" as technical training, health services, the purchase of implements, and the acquisition of improved seeds. Thus the application of the SMP criterion may imply a

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52. Kahn, op. cit., p. 41.

53. Ibid., p. 40.

54. Adler, op. cit., p. 585.

consideration of outlays for intangible returns as part of capital investment.

An interesting suggestion comes from two agricultural economists who suggest agrarian reform may be used to foster increased efficiency in the use of capital. Johnson and Metcalf[55] write:

> The major problem confronting the economic planners [in underdeveloped areas] is how peacefully to bring about a transferrence of wealth in land to alternative types of investment, and in a manner that will make for general economic improvement. . . . it is here suggested that former landowners should be re-imbursed by government bonds which could on application to a central bank be negotiated for industrial development loans to finance approved investment projects.

The feasibility of this suggestion depends upon the inflationary effects of government-created credit for industrial development. To the extent that the credit would be put in the hands of entrepreneurs who would be forced to apply their skill and organizational ability to new industrial projects and that these new projects would mobilize underemployed resources, it might succeed. If it were to cause extreme inflation, a more cautious redemption policy might be desirable.

The use of SMP as a criterion for investment may also lead to the conclusion that more modest economic development programs, at least up to a point, tend to maximize the SMP and thus the efficiency of capital use. These lesser projects require for their success relatively little capital and a minimal disturbance of settled habits of thinking and living. At least at first, this may be a more sensible procedure than a mass, frontal assault on non-Western patterns of culture.

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55. V. Webster Johnson and John E. Metcalf, "Land Redistribution and Industrial Development," Land Economics, Vol. 29, No. 2 (May, 1953), pp. 155-160.

In effecting an increased efficiency of capital use, the role of governments has more and more been examined, and the contributions of government planning more and more recognized. This has been especially true in the underdeveloped countries since World War II. Nurkse[56] suggests this means the "rate of accumulation no longer reflects individual preferences and propensities in regard to saving and current consumption." Rather the rate of accumulation is determined by governments on the grounds of national policy.

One of the important reasons for increased government participation in economic development activities in underdeveloped areas since World War II is the increasing recognition of the need for creating external economies and a recognition of some sort of social marginal productivity criterion.

As to interference with the choice of the individual, Nurkse[57] defends government direction of capital development by pointing out:

> Appropriation by the state of a greater share of the national income for investment activities does not have to interfere in any way with the freedom of consumers to spend their disposable income on the goods and services of their choice. It is the choice between saving and consumption that is assumed more and more by the state. Taxation is used increasingly as an instrument of compulsary saving.

Adler[58] points out two important ramifications of the use of the SMP criterion to guide investment allocations in underdeveloped areas:

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56. Nurkse, op. cit., p. 143.

57. Ibid., p. 144.

58. Adler, op. cit., p. 593.

1. The major burden of expenditures for social overhead capital has to be borne by the government.
2. The objective of attaining an "optimum composition of the investment flow" requires fiscal and monetary measures to reduce "less desirable private investment expenditures."

Frankel[59] recognizes this shift as parallel to the overall shift in emphasis during the 20th century away from strict laissez faire. He suggests societies like individuals "unconsciously project their own view of reality" and what they think the most appropriate solutions are onto others. Therefore it is only to be expected that just as in the 19th century people in the West thought the problem of development in "peripheral areas" would solve itself in the common framework, so now "opinion has swung to the other extreme." The people of the West, he feels, see the problem of economic development in underdeveloped areas as "dependent mainly upon the provision of capital with which governments of politically independent communities can pursue collective economic objectives."

Not only current economic literature, but also such action programs as Point IV and the Colombo Plan assign an essential role to government direction in proposing capital development. Further, governments are expected not only to take positive measures to invest capital themselves along some SMP criterion, but also to impose such fiscal measures and special taxation legislation as they feel will encourage capital formation. The United

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59. S. Herbert Frankel, "United Nations Primer for Development," Quarterly Journal of Economics, Vol. 66, No. 3 (August, 1952), pp. 301-326.

Nations report on Domestic Financing of Economic Development,[60] for example, suggests:

> As a general principle, it would seem preferable for the government to direct investment into preferred fields either by such fiscal measures as more favourable tax treatment or by direct use of public funds in a public enterprise or a subsidy to a private enterprise.

As these shifts in the role of government imply, recent thinking on the problem of capital in underdeveloped nations has led to attention being devoted to the role of fiscal and monetary policies as tools of economic development. In this discussion, governments are usually assumed willing to harness fiscal and monetary systems of underdeveloped nations to economic development, including, sometimes, inducing "forced savings" which could be channeled to government development projects.

The question of whether governments in underdeveloped areas, even if willing in some majority sense or in the sense of support from more liberal elements, are capable of taking some of the essential fiscal measures is thorny. Administrative machinery is often inefficient and poorly developed, but even more important, the compliance mechanism is lacking, and individuals with high incomes have also the political power to block effective legislation which might harm their personal incomes or positions of power. Singer[61] recognizes this as one of the "choices of evil" which confront underdeveloped countries. The typical pattern in the West during the 19th century, he points out, was extreme inequality in income distribution which

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60. United Nations Department of Economic Affairs, Domestic Financing of Economic Development (New York: United Nations Department of Economic Affairs, 1950), p. 5.

61. Singer, op. cit., p. 8.

lowered consumption and increased savings among upper income groups. In underdeveloped countries today, however, a pattern of unequal income distribution is not likely to produce savings among upper income groups which take a form "conducive to economic development." Unequal income distribution is not the only pattern by which to foster economic development, of course. But devices such as mass taxation, economic controls, rationing, and the like, Singer points out, are "most difficult to organize in underdeveloped countries" where administrative machinery is weak and the possibility of "effective taxation of high incomes is usually lacking."

Nurkse[62] suggests that one of the most important justifications for government fiscal controls in underdeveloped nations attempting to channel capital into economic development is to prevent transfer of domestic capital abroad, and to prevent capital transferred from abroad from being dissipated by improved consumption standards before it can be applied to economic development. The same justification exists for controls which channel into economic development forced savings accrued through fiscal and monetary measures, or gains resulting from an improvement in the terms of trade. He writes:

> In all these cases capital formation depends on complementary domestic policies. External resources, even if they came in the most desirable forms, are not enough. They cannot automatically provide a solution to the problem of capital accumulation in backward areas. Domestic action is essential for the effective use of external contributions as well as for the tapping of potential domestic sources. There is no solution to the problem without steady and strenuous effort on the domestic front. In a sense, therefore, it all boils down to this: capital is made at home. . . . external sources can scarcely make a significant contribution to economic growth unless there is complementary action on the home front. . . .

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62. Nurkse, op. cit., p. 140.

Nurkse also draws attention to the use of taxation as an instrument of inducing first savings to start a developmental process through government investment. The objections to using taxation, he says, arise first because of its effect on voluntary savings. This he quashes simply by pointing out it "would carry greater weight if the flow of voluntary saving were considerable."[63] Another danger is taxation might reduce the incentive to work, and while this could happen at high rates, it has not been too prominent in the past. It might be overcome through forced loans rather than outright taxation.

To harness the incentive to save, taxation could well be directed not to personal income alone, but rather to expenditure. And, Nurkse suggests, "the same effect might be obtained to some extent by exempting from income tax that part of a man's income which he saves."[64] He cites the Japanese policy of exempting life insurance premiums from taxable income.

Bloch[65] suggests that fiscal measures in underdeveloped countries should be suited to the social structure of the country. He insists a distinction must be made between those types of fiscal reforms "which affect elements of the social structure as such" and those which affect only financial institutions, even if these financial institutions are very important. He continues:

> The taxation of land is always closely linked to the agrarian structure as a whole. Changes on the tax side alone are not decisive as long as there is a land-tenure system which is unsuited to proper economic development. . . . tax changes and

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63. Ibid., p. 145.

64. Ibid., p. 146.

65. Bloch, op. cit., p. 254.

tenure changes must be interrelated in order to produce the kind of change in agrarian policy which is necessitated by growing development problems.

An example of the use of a fiscal policy to promote economic development is cited by Black.[66] Between the spring of 1950 and 1951 the prices of jute, burlap, and cotton rose markedly on the world market, and in response India increased her export taxes on these commodities. The result was "the siphoning off of large amounts of excess purchasing power" which was harnessed by the government "for investment in economic development." When prices dropped, India showed the "real sophistication" in her policy by lowering the taxes. As a result, India's major export industries were "relatively stable during a highly unsettled period in world trade" and at the same time India took advantage of an opportunity to add to her savings.

Encouraging and channeling savings, whether induced by deliberate government action or not, is a crucial consideration in increasing the efficiency of capital use in an underdeveloped nation. Most of the literature has almost passed over the problem by simply referring to the high propensity to consume in underdeveloped nations. In connection with the discussion of governmental fiscal measures above, it was pointed out that increased attention is being paid to measures which would encourage and channel savings.

The low level of savings is a characteristic of underdeveloped nations. In the United States and Canada about 15 to 18 per cent of the national income has been used for net private investment. In most underdeveloped

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66. Eugene R. Black, "Savings and World Development," in Walter Heller, Francis M. Boddy, and Carl L. Nelson (eds.), Savings in the Modern Economy (Minneapolis: The University of Minnesota Press, 1953), pp. 261-266.

nations, less than half this proportion of the national income is used for net investment. Black[67] estimates the overall rate in underdeveloped nations at approximately 5 per cent of national income, although in 1952, he reports, "nearly everywhere the proportion of national income being devoted to investment was higher than in the prewar period." In India, the proportion is some 2.5 per cent. This investment can barely provide for the growth of population.

Bernstein[68] points out that this low level of investment is in part due to the unavailability of those savings which do exist due to poorly organized markets for capital, and a tendency for individuals to invest in precious metals and foreign securities.

It would seem more attention should be paid to the problem of mobilizing savings of lower income groups, even if small. The United Nations report on Domestic Financing of Economic Development,[69] for example, treats co-operative societies rather lightly as a means of mobilizing capital, largely on the grounds there is little to mobilize. But once a program of economic development is under way, it will be necessary that the added national income which development makes possible be channeled to savings and investment. A substantial portion of that new national income should be reflected in assets held by individuals with moderate incomes, especially in agriculture. This would imply attention to savings institutions and co-operative societies which would lower the marginal propensity to consume

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67. Ibid., p. 262 ff.

68. See Bernstein, op. cit., p. 269.

69. United Nations Department of Economic Affairs, op. cit.

as economic development proceeds. Provision for channeling new savings probably should be begun with the first efforts at economic development.

Lowering the marginal propensity to consume is very difficult, of course, when the government must overcome the full force of what Duesenberry[70] terms the "demonstration effect." But the desire to initiate economic progress which is becoming increasingly important throughout the underdeveloped areas may well help reduce the force of this. Bernstein[71] says, "the desire to accumulate moderate savings is much stronger in low-income countries than is generally assumed." Soviet Russia and Japan provide examples of nations overcoming the "demonstration effect," although they both did it to a degree by preventing the free flow of information, particularly about consumption, from abroad. More relevant, perhaps, is the recent attempt of the United Kingdom after World War II which consciously reduced consumption through the use of luxury taxes, materials controls, and exchange controls to promote economic development. The method of enlisting widespread popular support for a national effort is not without relevance in underdeveloped nations.

Singer[72] illustrates how important harnessing internal savings of lower economic groups for economic development can be. He proposes a model with parameters similar to those found in underdeveloped nations desiring to initiate economic development. He concludes a marginal savings of 50

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70. James S. Duesenberry, Income, Saving and the Theory of Consumer Behavior (Cambridge: Harvard University Press, 1949), p. 27.

71. Bernstein, op. cit., p. 297.

72. Hans W. Singer, "The Mechanics of Economic Development," Indian Economic Review, Vol. 1, No. 2 (August, 1952), pp. 1-18.

per cent of added income after an external capital injection of a specified amount would give development from a primarily agricultural economy with 80 per cent of the population rural to an economy with 80 per cent of the population industrial in a period as short as 13 years. A marginal savings rate of 20 per cent would give similar development in 50 years, while a marginal savings of 6 per cent, with a moderate population growth, would never result in development.

One of the governmental tools which can encourage economic development is to secure forced savings by inducing an inflation. This might seem like playing with matches around gasoline. In many instances the postwar world has burned itself with inflation, but fire should not be abandoned simply because one burns himself. Rather, careful consideration must be given to the advantages and disadvantages which might come in various situations if inflation were harnessed to economic development. Nurkse[73] suggests:

> We must admit that, over a wide range, inflation can be effective as an engine of forced saving, and is being effective in this sense in a number of underdeveloped countries today.

He cautions, however, against extensive use of inflation, pointing out, as have many other authors, the arbitrary transfers and disruption of the social fabric that inflation can bring. Some contention has been made that inflation in an underdeveloped economy is less dangerous than in a more advanced economy.[74] Singer[75] contends, however, that this is "only

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73. Nurkse, op. cit., p. 144.

74. See, for example, A. R. Prest, War Economics of Primary Producing Countries (Cambridge: Cambridge University Press, 1948), p. 295 ff.

75. Singer, Economic Progress in Underdeveloped Countries, p. 9.

superficially true," and points out a danger peculiar to underdeveloped economies:

> One of the things essential for underdeveloped countries is the transition to a fully monetary economy and fully developed specialization of labor; this may be just as indispensable as technological improvements. Inflation delays and may prevent the transition to a monetary economy because it undermines confidence in money, especially among farmers. In this respect, the wartime inflation has been a serious setback to the underdeveloped countries.

It would seem the dangers of inflation even in underdeveloped countries, and the arbitrary shifts in wealth which accompany inflation, would mitigate its use except perhaps in a very restricted application. (It may be noted, however, that to the extent new credit mobilizes unemployed resources, the expansion of credit may promote economic development. This is to be distinguished from the use of inflation to shift the allocation of resources already being used.)

Increased efficiency through adjustments of economic institutions

From the foregoing discussions of increased labor efficiency and increased capital efficiency, it follows that important stress in economic development must be put on increased efficiency through adjustments in economic institutions. The explicit possibility of changing economic (and social) institutions is the principal difference between the rigid assumptions of established economic theory and the direction which more recent thinking is taking.

To take advantage of the economic potentials in underdeveloped areas will take imaginative use of new economic institutions and extensive adjustments of existing institutions. Transferred institutions developed in the context and needs of Western Europe and "Europe overseas" must be

adjusted to effect maximum efficiency in the context of the underdeveloped areas.

That adjustments will be necessary in economic institutions should come as no surprise to thinkers in the Western tradition. The very sort of economic development which underdeveloped areas wish to achieve was made possible by a series of important adjustments and institutional innovations in the West. This, of course, has been the particular area of concern of economic historians.

Western Europe was primarily an agricultural community based on feudal tenants when the intellectual ferment that was the Renaissance broke through the centuries of tradition which had served as a form of gestation period for later developments. Gradually the accepted economic thinking had been adjusted to meet rising economic stresses, and by the time of St. Thomas Aquinas, economic thinking was almost ready to provide the groundwork upon which new economic institutions were to be built.

The rise of the capitalistic spirit in Western Europe caused a weakening of the traditional economic system centered on feudalistic practices. The influence on agriculture is perhaps of most interest in relation to current thinking on underdeveloped countries.

Of this period, Clough and Cole[76] write:

> Agriculture tended to be transformed in several respects. Money payments replaced goods and services as rents and dues. Leases replaced customary tenures. Individual ownership and operation replaced the community agriculture of the feudal system. Production for the market replaced production for use. New and better methods replaced traditional ones.

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76. Shepard Bancroft Clough and Charles Woolsey Cole, Economic History of Europe (Boston: D. C. Heath and Company, 1946), p. 185.

Virtually identical changes are recommended by agricultural economists suggesting adjustments in agrarian institutions in underdeveloped nations today.

In the world of business, a whole host of new economic institutions arose to meet the new demands of the economic system. Regulated companies and joint-stock companies, representing the combined efforts of a large number of individuals, undertook exploration and commercial exploitation, a function shifting to government in our present world. The power of landlords and hereditary nobles declined and that of the commercial and industrial classes increased. The absolutism and extreme concentration of wealth, which by no means was without mitigation in medieval times, gradually declined.

The conscious transfer of economic power among groups as a means of adjusting economic institutions is illustrated more recently in the United States with the rise of anti-trust legislation beginning with the Sherman Anti-Trust Act of 1890, the Sixteenth Amendment ratified in 1913 making income taxes constitutional, and the Wagner Act of 1935.

Galbraith[77] singles out another structural change in economic institutions in the United States, terming it "countervailing power." He states:

> To begin with a broad and somewhat too dogmatically stated proposition, private economic power is held in check by the countervailing power of those who are subject to it. The first begets the second. The long trend toward the concentration of industrial enterprise in the hands of a relatively few firms has brought into existence not only strong sellers, as economists have supposed, but also strong buyers as they have failed to see. The two develop together, not in precise step but in such a manner that there can be no doubt that the one is in response to the other.

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77. John Kenneth Galbraith, op. cit., p. 118.

Just as the economic development of the West required important adjustments in economic institutions, so the economic development of the underdeveloped areas of the world today will require important and far-reaching adjustments in economic institutions to improve efficiency.

A basic adjustment will be in the shift from a subsistence economy to a monetary economy. Woytinsky and Woytinsky[78] estimate that of a world population of 2,351 millions in 1948, 1,339--56.7 per cent--live in "prevailing subsistence economies." Singer[79] has been quoted as emphasizing that a "transition to a fully monetary economy" is "just as indispensable" in effecting economic development as is technological improvement.

In agriculture, important shifts in agrarian economic institutions are clearly necessary for increased efficiency. The concept of agrarian reform is conceived as an adjustment of economic and social institutions which will enable the society to achieve a greater efficiency of agrarian production.

One important area of adjustment in economic institutions which is necessary in underdeveloped countries is that of adjusting fiscal techniques to suit the conditions found there. The necessity and potentialities of adjustments in the fiscal system to increase capital efficiency were indicated earlier.

In suggesting administrative techniques to apply fiscal measures to increase capital efficiency in underdeveloped areas, the literature shows much imagination. Authors often recognize that transferred systems are

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78. Woytinsky and Woytinsky, op. cit., p. 436.

79. Singer, Economic Progress in Underdeveloped Countries, p. 9.

inadequate without important adjustments. In the past, Bloch[80] states:

> Fiscal systems have often been transferred for political reasons or reasons of cultural affinity. The most typical instance is the transfer of British fiscal systems to the colonies.

Heller[81] points out all fiscal policies must be molded to fit not only the needs of the underdeveloped nations, but also the strength of its administrative machinery. (Nurkse[82] would agree, writing, "after all, in an underdeveloped country the fiscal machinery is likely to be underdeveloped also.") As for income taxes, Heller points out, the "compliance mechanism doesn't exist," forcing exploration of new areas if taxes are to be raised. In fact, he suggests, the most successful fiscal and monetary policy of all in some underdeveloped countries would be consistent and honest administration.

Adler[83] suggests a progressive property tax would be an adjustment suitable to underdeveloped countries with inadequate administration and poor compliance, since property is easier to identify.

The United Nations Domestic Financing of Economic Development[84] suggested mutual exemption systems and tax credits between underdeveloped and capital exporting nations to encourage foreign investment, since "under

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80. Bloch, op. cit., p. 255.

81. Walter W. Heller, "Contributions Fiscal Policy, Particularly Taxation, Can Make to Underdeveloped Nations" (Paper presented at the Social Science Seminar, Ames, Iowa, November 6, 1952).

82. Nurkse, op. cit., p. 151.

83. Adler, op. cit., p. 594.

84. United Nations Department of Economic Affairs, Domestic Financing of Economic Development, p. 29.

this system under-developed countries are able to raise tax rates to the level prevailing in the countries of registration, without a deterrent effect on investment, since the total tax burden on the foreign company is not increased." The report also discusses a number of other administrative techniques suitable to meet the problems of underdeveloped nations.

Bernstein[85] suggests that social security reserves, which are appreciable in certain South American countries, could be harnessed for economic development. He suggests:

> Satisfactory means can be found for investing at least part of the social security reserves in enterprises of great social and economic significance. . . . The proper safeguard would be to establish a list of enterprises whose preference securities would be eligible for investment because of their record of continuity and stability in earnings. The public utility enterprises--electric power, telephone communications, and so on--are likely to meet these tests in a high degree. With the rates reasonably adjusted to the cost and value of the services they provide, public utility enterprises should have no difficulty in providing a good return on the social security reserves invested in them.

An important adjustment in economic institutions which would be particularly effective in increasing efficiency of labor in agriculture would be the establishment of credit for small farmers through rural banks on terms they can afford to pay. These rural banks might offer technical assistance and farm management advice with their loans, which would increase the soundness of the loan as well as help overcome some of the traditional fear on the part of rural people of financial institutions.

Increased efficiency through adjustments in social institutions

A parallel to the adjustments in economic institutions discussed above would come in adjustments of social institutions.

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85. Bernstein, op. cit., p. 301.

There can be little doubt purely social institutions have an important influence in economic affairs; modern economic thought increasingly recognizes this. The influence of the "Protestant ethic" on economic life has been discussed at length following Tawney's early statement.[86] In underdeveloped nations the influence of religion and communal institutions is important. Any suggestion for economic development in these areas must recognize these social or cultural institutions not only as obstacles to economic development conceived along Western lines, but also as variables in the total picture--variables for which skillful analysis may point the way to harnessing to promote economic development.

Social institutions are the reflections of the culture of which they form a part. A culture may be defined as the "learned, socially sanctioned behavior of a people."[87] It is thus dynamic, and constantly responding to stimuli both from within and without its own structure. Culture fulfills a twofold function. It provides those born into a society with means to adapt effectively to their human and natural setting by training them in the forms of behavior recognized as valid for their group. Herskovits[88] emphasizes that culture performs another function, too--one of great importance in economic development:

> [Culture] provides a background against which the creative aspects of the total human response pattern can be projected, a base from

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86. R. H. Tawney, Religion and the Rise of Capitalism (New York: The New American Library, 1947), 280 pp.

87. Melville J. Herskovits, "The Problem of Adapting Societies to New Tasks," in Bert F. Hoselitz (ed.), The Progress of Underdeveloped Areas (Chicago: The University of Chicago Press, 1952), pp. 89-112.

88. Ibid., p. 104.

> which exploration into new orientations in living can move. From the point of view of human personality development, culture is thus the medium through which adjustment is achieved, a point of particular importance when the maladjustments that result from contacts between peoples with disparate cultures are taken into account.

A culture, obviously, does not stand or fall on economic tests alone. Rather, a culture must be judged on how nearly it enables the people who participate in it to achieve their basic ends. Goldschmidt[89] suggests a "good" culture is one which:

> (1) satisfies the physical needs of its population; (2) is so organized that it will be able to continue indefinitely to satisfy such needs; and (3) offers its members the satisfactions necessary to a personality adjustment within the context of its own system of values so long as it does not exploit physically or psychologically some other population or segment of the population.

From the means-ends continuum, it may be seen that different cultures are suitable to varying degrees to different populations, and, specifically, that no one culture can be best for every population. The extent to which other cultures wish to incorporate improvements in material standards of living into their system of values with a greater weight, and the extent they wish to achieve material standards similar to those of the West provide the common area of interest in economic development. This provides a common ground upon which Western cultures may offer technical assistance and capital transfers. It must be explicitly recognized, however, that economic development does not necessarily mean transformation of a culture into a copy of the West.

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89. Walter R. Goldschmidt, "The Interrelations Between Cultural Factors and the Acquisition of New Technical Skills," in Bert F. Hoselitz (ed.), The Progress of Underdeveloped Areas (Chicago: The University of Chicago Press, 1952), pp. 135-151.

Recognition that adjustments in social institutions are an integral part of economic development and therefore of economic analysis forces a vast expansion in the area of human knowledge which must be brought to bear upon the problem of economic development. Recent thinking has recognized this as a problem requiring interdisciplinary study of the broadest sort.

Hoselitz[90] contends the problem of comparing different social and cultural frameworks leads those studying economic development into the fields of history, anthropology, sociology, and politics. The need to know what sort of cultural traits are "hospitable to innovations in economic and technological fields" means the "ultimate determinants" of economic development cannot be fully understood "without crossing the line which separates economics from social anthropology."

Herskovits[91] cautions in a similar vein, suggesting:

> The fragmentation of knowledge in our society, as represented, for instance, by the specialized academic disciplines, has carried us so far that it is easy for us to forget that a culture is a functioning unit.

Although the emphasis in proposing a program may be upon economic development, an understanding of noneconomic factors in the culture is probably essential to success. Belshaw[92] suggests that in thinking directed

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90. Bert F. Hoselitz, "Preface," in Bert F. Hoselitz (ed.), The Progress of Underdeveloped Areas (Chicago: The University of Chicago Press, 1951), pp. i-viii.

91. Herskovits, op. cit., p. 108.

92. Horace Belshaw, "Poverty and Progress, The Modern Version," in International Conference on Agricultural and Cooperative Credit, Proceedings, Vol. 1 (Berkeley, California, August 7 to October 2, 1952), pp. 277-290.

toward achieving economic development "much, perhaps even major attention" must be paid to "substantially non-economic institutions and attitudes." These noneconomic factors determine "in large measure" the most appropriate form of leadership, the inertia in the society, the incentives to which people will respond, and effective means of persuasion or coercion.

Not only is it important to recognize the influence social institutions have on economic development, but equally it must be recognized that not all change within a culture is directed toward economic ends. Opler[93] comments that Westerners in underdeveloped areas are often struck by the need and poverty of the population, and fall into the error of assuming the culture must direct all of its energies to economic development.

> It must be realized . . . that much of the purposeful and planned culture change now going on in the underdeveloped regions of the world, and especially in nations which have lately come to independence and a new self-consciousness, is not primarily concerned with economic growth or the employment of fruits of Western technology.

Opler continues to outline such selective cultural changes as the effort of India to make Hindi the lingua franca of the nation, and the official support being given to the revival of indigenous medical systems "a Western medical practitioner would regard . . . as a slight cut above magic."

Cultural values may also affect the importance of money within an economy. For instance, cattle are a medium of exchange in parts of Africa,

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93. Morris E. Opler, "The Problem of Selective Culture Change," in Bert F. Hoselitz (ed.), The Progress of Underdeveloped Areas (Chicago: The University of Chicago Press, 1952), pp. 126-134.

and to slaughter cattle is to throw away money. Or the familiar argument may be cited of a backward-sloping supply curve for labor in an underdeveloped economy where relatively simple wants, once satisfied, leave labor with no further incentive to work for wages.

The implications of such cultural differences as exist in different populations are important in economic thinking. Belshaw[94] points out this implies recognizing the limits of economic analysis, "especially where it assumes a rationale of behaviour typical of an individualist society." In many underdeveloped countries, "we must take as our assumptions very different patterns of stimuli and responses."

Bronfenbrenner[95] is at pains to point out economic development must not be thought of as costless. He suggests discussions of economic development often proceed:

> . . . quite as though economic development were completely costless or at least as though no reasonable man could doubt any amount of development at any speed to be worth whatever the costs may be. The costs themselves remain for the most part unanalyzed.

Bronfenbrenner suggests the Classical and neo-Classical economists considered economic development "relatively costless" and recognized only four kinds of cost: (1) abstinence from consumption in the interest of net saving; (2) displacement of skilled labor by machinery; (3) decline of agricultural rent; and (4) premature obsolescence. But widespread "social, esthetic, ethical, and religious dislocations" involved in

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94. Belshaw, op. cit., p. 280.

95. Martin Bronfenbrenner, "I. The High Cost of Economic Development," Land Economics, Vol. 29, No. 2 (May, 1953), pp. 93-104.

displacing local precapitalist and preindustrial technology were "not recognized as costs at all," any more than "the white man's diseases which sometimes accompanied them."

These social costs have not been adequately recognized by later economists either, he asserts. Bronfenbrenner attacks the Keynesian stagnationist theory that economic development can be painless since:

> . . . the savings transferred from more to less developed countries are envisaged as savings which cannot find investment outlets at home at positive rates of interest, and whose accumulation operates in a closed economy to produce unemployment rather than income.

This concept, which Bronfenbrenner identifies as the "United Nations viewpoint," is dismissed by him on the ground such funds, if they do exist, will be put into public investment projects at home, such as flood control and higher education. Reviewing recent economic aid and its effects in terms of economic development, he concludes "painless economic development has not been painless to the lending countries and has produced disappointingly little economic development" in borrowing nations.

Economic discussion, as Bronfenbrenner indicates, has paid little attention to social costs involved in economic development. However, recognition of a broad cultural setting for development would seem to bring with it recognition, too, of costs. In any event, the resistance to changes in social institutions to accommodate economic development indicates peoples in underdeveloped areas, consciously or unconsciously, recognize social costs and, with their value systems, are unwilling to pay the price of economic development.

Generally, recent economic literature on development recognizes the transfer of the Western economic and cultural systems to underdeveloped

countries is not alone impossible, but in fact, undesirable. It recognizes not only there are worthwhile elements in cultures other than those of Europe or the United States, but also some of the features of Western European culture are undesirable in promoting economic development in the light of 20th century conditions and values. The passing of laissez faire is one example of this almost universally recognized. Baran[96] makes a sweeping condemnation of the haphazard introduction of Western business ethics into underdeveloped economies. All that happened when this institution was introduced, he contends, was that the "age-old exploitation" of the people by domestic overlords was "freed of the mitigating constraints inherited from the feudal tradition." What resulted was an economic and political system "combining the worst features" of feudalism and capitalism and "blocking effectively all possibilities of economic growth."

Thinking about economic development in underdeveloped areas, then, must recognize differences in cultural values and devise means to harness existing social institutions so they can promote economic development. Adjustment rather than elimination should be the aim. Belshaw[97] predicts measures designed to promote economic development--especially those suggested by "well-meaning foreigners"--are likely to fail unless there is a "sensitive perception of cultural differences in economic structure."

It is important when devising means of adjusting existing social institutions on the part of the people in underdeveloped countries to pay attention to the problem of distributing benefits to reach the many, not

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96. Baran, op. cit., p. 67.

97. Belshaw, op. cit., p. 278.

simply further enrich the few. A rounded program cannot be blind to the consideration that existing institutions are obstacles to economic development not only by preventing increased output, but also by preventing more widespread distribution of the fruits of economic development.

A number of instances may be cited where economic development was furthered by adjustments of existing social institutions which might otherwise have been obstacles. At the same time, the noneconomic values of the culture were more nearly achieved.

Herskovits[98] cites the success of the Gezira scheme in the Anglo-Egyptian Sudan and another project in French West Africa "where native production of cotton and ground nuts, through uniting the work of individual farmers, has materially increased production." The success in contrast to the ill-fated groundnut scheme in East Africa is due, he suggests, to the fact that the Gezira and French West Africa schemes are built "in ways that make sense to the people involved in them" and provide "incentives to active participation" which enable "the effective attainment of stated ends."

Opler[99] expresses the opinion that existing structures should be used wherever possible in order to avoid the fear of what change may bring, to aid stability during the transition period, and to prevent unnecessary dislocation. He points out "one of the most successful technical aid ventures in India" has utilized the panches or traditional Indian arbiters and leaders. By bringing these accepted local leaders together in camps and giving

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98. Herskovits, op. cit., p. 104.

99. Opler, op. cit., p. 134.

them special opportunities to learn about the economic development project, "the program enhanced the prestige of these leaders and gained for itself spokesmen and powerful champions in the villages."

Most agrarian social institutions in underdeveloped countries are family-centered. This presents certain obvious obstacles to economic development such as reduced mobility of labor, fragmentation of agricultural land, and resistance to outside leadership. But on the other hand, as Belshaw[100] points out, "the social cohesion resulting from these attitudes" may pave the way for the establishment of co-operatives and other forms of mutual action. In New Guinea and the Solomons, for example, "promising beginnings" have been made in economic development through communal organization. Kinship groups have been formed for rice growing, furniture building, boat building, fishing, and other enterprises which require equipment beyond the reach of individuals.

One of the outstanding examples of harnessing local social institutions to further economic development is to be found in the cacao-growing industry of the Gold Coast. There efforts long antedating current technical assistance programs and concern with economic development have in large measure achieved many of the ends sought by underdeveloped nations. The native standard of living is the highest of any dependency in Africa; its political growth has been steady and today a local parliament and cabinet govern the internal affairs of the nation; its educational system has far wider ramifications into the villages than elsewhere in Africa.

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100. Belshaw, op. cit., p. 279.

Herskovits[101] reports that, while all this has not been achieved without stress and conflict, it "in essence represents the results of inner developments" which have been based on "pre-existing patterns." In agriculture, one of the most interesting of the new institutions has been the co-operative which markets cacao. This co-operative represents an adaptation of pre-existing social patterns of communal action to meet the new demands of a market-oriented agriculture and to achieve increased levels of living.

Opler[102] reports the revitalization of a social institution which has been adjusted to encourage agrarian development. The ancient village assemblies in the Indian state of Uttar Pradesh (known as panchayts) had suffered badly in influence and prestige during the British administration. After independence in 1947, these assemblies were given special encouragement by the state government, and assumed considerable authority over local matters. Now these assemblies have become the center of the effort to introduce programs of improved agricultural techniques and education on the local level. Although still too early to predict how effective these ancient village legislatures will be in introducing the new techniques, "there is strong evidence that many of them have already proved valuable for this purpose." Should these assemblies instead of being revitalized have been "ignored and consigned to political oblivion as outworn symbols of the past," Opler feels they would have been "quite effective in opposing technical innovation."

A key to harnessing local social institutions which runs through all

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101. Herskovits, op. cit., p. 102.

102. Opler, op. cit., p. 134.

the examples cited can be seen to be local participation. Increasing local participation has long been recognized as desirable in democratic social institutions of the West. In underdeveloped countries, local participation through social institutions adjusted to foster economic development may be an essential component of economic development.

Goldschmidt[103] suggests seven key principles as guides to making technology and a "better life" available in underdeveloped countries. These principles are as follows:

1. The introduction of technological developments must be in terms of the needs of the local society--either felt needs or those which can be demonstrated to exist--and should not be introduced merely because they "appear necessitous" to outside advisors.
2. A technological innovation must be evaluated in terms of both physical and social consequences, and safeguards established to prevent deleterious effects.
3. New techniques should be fitted into the social institutions of the local peoples by adjusting the institutions whenever possible.
4. The third principle must be followed with its converse: a local social institution should not be led to a crystallization and rigidity of organization through the introduction of techniques designed to further economic development.

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103. Goldschmidt, op. cit., p. 149.

5. Both rules three and four must be applied also to the local system of values. "The destruction of native goals for action leads only to anomie and not to the automatic acquisition of Western values." However, certain old values may require adjustment to be in harmony with newer values such as economic development.

6. Channels for advancement and the satisfaction of "culturally induced expectations" must remain open in a society embarking on economic development. The achievement of personal success is important.

7. It is necessary to have detailed understanding of both the cultural system of the society and the possible consequences, physical and social, of the innovations which are contemplated.

An adjustment of social institutions of particular interest in the present study is the movement of underemployed labor out of agriculture. Some economic literature has suggested that one means of measuring economic development is the percentage of population engaged in agriculture. Boulding,[104] for example, writes:

> A useful rough index of economic progress is the proportion of the economic resources of a society (say, its labor force) which is not employed in agriculture. . . .

Boulding recognizes the limitations of this rough index, but this has not always been the case in earlier literature. Nevertheless, the social adjustment involved in utilizing underemployed labor as a means of

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104. Boulding, op. cit., p. 57.

furthering economic development does involve the transfer of labor from agriculture to nonagricultural employment. This may mean moving away from the rural environment to a city, but it may equally well involve employment in local or cottage industries. This diversion of labor will involve both the actual transfer of individuals from primary industries and vocational guidance to rising generations to enable them to choose nonagricultural employment.

The movement from agriculture to nonagricultural industries is in part due to the increasing marginal efficiency in agriculture and in nonagricultural industries as a result of new technology combined with the relative inelasticity of demand for agricultural commodities. The shift from agriculture has been experienced during the economic development of all the more developed nations. It again illustrates the interdependence of agrarian development with general economic development in a balanced program for the whole economy.

Clark[105] goes so far as to term the shift of labor out of agriculture as "the most important concomitant of economic progress," and cites Japan as an instance where a marked increase in per capita average real income was accompanied by "a very rapid movement of population away from primary production." Clark[106] asserts an examination of his empirical data "subject to a number of qualifications";

> . . . gives a remarkable confirmation of the a priori view that an increase in working population is injurious to economic welfare in a predominantly primary producing country, beneficial to

105. Clark, op. cit., p. 176.

106. Ibid., p. 154.

> economic welfare in a predominantly industrial country, and that the ill-effects of the former can be mitigated by a rapid transfer of the population away from primary production.

It must be explicitly recognized that many underdeveloped countries with an endowment of rich agricultural resources may further economic development by specializing in the production of food and fiber to be sold on the world market in exchange for industrial commodities.

From the standpoint of actively promoting economic development, the problem becomes by what means and how rapidly a shift from agriculture to industry can be fostered without disrupting the social structure and without inducing damaging--perhaps irreparable--transitional effects.

A special form of social institution which should be singled out in thinking concerning economic development is government. As has been mentioned explicitly earlier and implied in the discussion on increased efficiency of labor and of capital, economic literature has assigned an increasingly important role to government in promoting economic development. Many of these new activities have been discussed earlier, and others will be considered in the discussion to follow. Some more general considerations of the role of government as a social institution may be considered at this point, however.

One of the important general responsibilities of government, as Singer[107] points out, is stability:

> Where the economic institutions for development are governmental, political instability is reflected in confused, contradictory, or abortive economic policies. Underdeveloped countries need stability of government far more than industrialized countries where development has become automatic. At the same time the

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107. Singer, Economic Progress in Underdeveloped Countries, p. 9.

very lack of economic development in many countries makes for instability of government.

Similarly, the maintenance of social order is an important social function performed by government which is necessary for economic development.

In considering the place government is increasingly expected to take in promoting economic development, Finer[108] suggests it be divided into adaptive and active roles.

In the area of adaptive roles, government as a social institution would be expected to undertake activities which enable the population to adjust to the changing environment. This may be necessary to enable economic development to proceed, and to enable individuals to adjust to changed circumstances as economic development proceeds. Foremost among these activities would be educational processes. Government would also be expected to undertake other programs which would facilitate transfer, such as employment services and perhaps loans to carry a family over a transition period. Government would be expected to undertake programs aimed at resolving conflicts between capital and labor, such as conciliation services and legislation defining responsibilities and rights.

In agriculture, an important government function in many underdeveloped areas is to undertake that vast readjustment of social institutions to increase efficiency known as agrarian reform.

Through such devices as progressive taxes, social security, and savings institutions governments are expected to influence consumer decisions.

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108. Herman Finer, "The Role of Government," in Harold F. Williamson and John A. Buttrick (eds.), Economic Development, Principles and Patterns (New York: Prentice-Hall, Inc., 1954), pp. 365-426.

Finally, the government should be active to devise means to influence and encourage investors who will promote economic development and to encourage innovation within the economy.

The active portion of government's role in promoting economic development has received increasing attention. Government is seen as a saver in the economy, and as a capital investor. On an international level, such programs as Point IV, the Colombo Plan, United Nations technical assistance, and the World Bank use government in this role, either actually using funds and technical assistance in projects of its own, or acting as a guarantor for private investors. In some instances, notably in the Soviet Union, government has taken the active role of producer. In other nations, government has taken title to mineral resources and their exploitation, as is the case in Saudi Arabia or the Belgian Congo.

If, however, government is to take on these roles expected of it in economic development, it must be able to act. This may seem like a truism, yet one of the major obstacles to economic development in the past has been the inability of governments to carry out programs of economic development.

A case in point arose in Iran. An irrigation project was proposed in the rich Zalindeh River valley by the Iranian government for which the United States agreed to supply some of the capital and technical assistance. But as initial surveys were being made it was discovered that the zammdars, or landed aristocracy, would not relinquish any of their water rights, and were preparing to reap all the benefits of the new project. The plan involved reactivating a 350-year-old canal to bring water to some 4,800 small farmers, but the 200 zammdars had traditional rights to all the water in the river and were in a position to enforce their claim even to

new water sources. The Iranian minister in charge of the program admitted, "they are more powerful than the government; I am helpless against them." At length, the United States Point IV funds allocated to the project were used elsewhere.[109]

Historically in the West, Baran[110] points out, a rising middle class allied with the bulk of the people to overcome this sort of situation. He asserts, however, that the rise of various socialist movements since the beginning of the 20th century has "painted on the wall the imminent danger of a social revolution."

> By instilling a mortal fear of expropriation and extinction in the minds of all property-owning groups the rise of social radicalism, and in particular the Bolshevik Revolution in Russia, tended to drive all more or less privileged, more or less well-to-do elements in the society into one "counter-revolutionary" coalition. Whatever differences and antagonisms existed between large and small landowners, between monopolistic and competitive business, between liberal bourgeois and reactionary feudal overlords, between domestic and foreign interests were largely submerged on all important occasions by the over-riding common interest in starving off socialism.

Faced with power resident in a traditionally ruling class of selfish interests, and grappling with the fear that any change means expropriation, governments in underdeveloped nations attempting to progress along democratic lines similar to those of the West have a very difficult situation. In some instances the situation has resulted in a virtual stalemate. But economic development and change are necessary to resolve those very conflicts which give rise to violent revolution. Western nations seeking to

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109. "Powerful Landed Class Stymies Iranian Water Project in Desert," New York Times, March 21, 1954, p. 21, col. 1.

110. Baran, op. cit., p. 69 ff.

promote economic development which will benefit large numbers of people may have to go over the heads of reactionary ruling classes. Hakim[111] suggests:

> There is no reason . . . for governments of advanced countries which wish to render assistance for economic development to shy away from measures wrongly regarded as interference in the affairs of other countries as long as they are directed toward the raising of living standards which is a recognized aim of the United Nations. For under a policy of so-called non-interference, technical and financial aid may result in benefits to a reactionary and corrupt group or class and leave the majority of the people in poverty.

Shifts in the domestic political power within a nation may be an absolute prerequisite to lasting evolutionary economic development programs. Progress may be stymied without it. Baran[112] asserts economic assistance "is no substitute for the domestic changes that are mandatory if economic development is to be attained." Economic assistance in such an instance may "actually do more harm than good." He concludes:[113]

> For backward countries to enter the road of economic growth and social progress, the political framework of their existence has to be drastically revamped. The alliance between feudal landlords, industrial royalists, and the capitalist middle class has to be broken. . . . Such progressive and enterprising elements as exist in backward societies have to obtain the possibility of leading their countries in the direction of economic and social growth.

Baran's sweeping condemnation may be too broad in many instances, but there can be no doubt that to further economic progress, governments must win the power to work for the general good of all their population and act

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111. George Hakim, "Technical Aid from the Viewpoint of the Aid-receiving Countries," in Bert F. Hoselitz (ed.), The Progress of Underdeveloped Areas (Chicago: The University of Chicago Press, 1952), pp. 259-269.

112. Baran, op. cit., p. 82.

113. Ibid., p. 83.

on behalf of the majority against any obstructionist minority.

Increased efficiency through dissemination of information

More widespread and more effective dissemination of information, especially technical information, is necessary if economic development is to proceed. From the theoretical point of view, the established economic assumption of "complete information" must be dropped in the context of thinking about economic development. To this economists would readily agree. DeGraff[114] even goes so far as to suggest that in programs to foster economic development, the "real concern is the dissemination of knowledge to the actual producer on the farm and in the shop."

From the standpoint of economic development in underdeveloped nations, agricultural information is particularly important. The effective success of agricultural extension in the United States need only be mentioned. Similar techniques have their applicability in underdeveloped areas. Likewise supervised credit is an important channel for dissemination of technical information.

Underdeveloped nations are not alone in having a large potential for economic development to be exploited by increased efficiency through dissemination of information. In the United States, for example, Black and Maass[115] estimate that "full, efficient, and economic application of available technology" would result in an increase in agricultural production

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114. DeGraff, op. cit., p. 698.

115. John D. Black and Arthur Maass, "Future Demands on Land Productivity," in The President's Materials Policy Commission, Resources for Freedom, Vol. 5 (Washington: United States Government Printing Office, 1952), p. 65 f.

of 86 per cent over the 1949-50 average by 1975. This does not take into account "the more revolutionary types of technological change that are discussed often these days."

Hayek[116] asserts that if all the relevant information is at hand, including a given system of preferences and complete knowledge of possible means of production, the problem of constructing a rational economic order is "purely one of logic," for which the conditions of optimum can be best stated in mathematical form. This, however, is "emphatically not the economic problem which society faces." Although the economic calculus which has been developed to solve the logical problem is an "important step toward the solution of the economic problem of society" it does not provide the answer to it. The reason is simply that all the data from which economic calculus starts are never given to a single mind for the whole society, "and can never be so given." The economic problem of society is the utilization of knowledge not given to anyone in its totality. Therefore, Hayek suggests, the means in which information is communicated to individuals "is the crucial problem for any theory explaining the economic process." Similarly, the problem of the best way to utilize information initially dispersed among all the individuals of the economy "is at least one of the main problems of economic policy" and of "designing an efficient economic system."

Schultz[117] recognizes the necessity for increased dissemination of

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116. F. A. Hayek, "The Use of Knowledge in Society," American Economic Review, Vol. 35, No. 4 (September, 1945), pp. 519-530.

117. Schultz, The Economic Organization of Agriculture, p. 275.

information if economic development is to proceed. A community can "induce a measure of economic development by making improvements in the information on which economic decisions are made." Furthermore, Schultz finds evidence in examining the American situation "to indicate that these contributions may be relatively large. He suggests thinking about economic information can be organized around the following five points:

1. The information about economic processes is not assumed to be known in a community.
2. Dissemination of information is not a free service.
3. Economic information is always incomplete and can generally be made more complete at some price. The problem of making more or less information available is the same as other economic choices in the society.
4. Technical information can be "produced" and "distributed," both in the sense of educational activities and research.
5. Economic development is dependent "to a substantial degree" on the choice and "depth" of information which can be made available.

Viner[118] feels that once "it is made clear that the acceptance of training brings substantial and prompt economic reward," the people in underdeveloped areas will be willing to accept the education and the change it implies. "The real bottleneck," he asserts, "is likely to be not the lack of adequate responsiveness" to new information "but the scarcity of the teaching and of the new teachers to impart it."

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118. Viner, op. cit., p. 104.

These necessary conditions for economic development obviously have extensive ramifications in every area of human economic activity. As ends-in-view, however, they provide an evaluative standard and a framework of thinking by which alternative actions to resolve problematic situations involving economic or agrarian development may be judged. In subsequent sections, these necessary conditions are applied to economic development and to agrarian reforms as steps towards economic development.

ELABORATION OF GROWTH MODEL AND APPLICATION OF NECESSARY CONDITIONS

Some idea concerning the magnitude of the task faced by underdeveloped nations aspiring to economic development comparable to that of the West may be indicated by elaborating a simple growth model. An idea may be gained of the kinds of adjustments necessary to achieve economic development of the order indicated by the model through an examination of the necessary conditions for economic development (presented in the previous section) as they apply to a particular country.

The simplest growth model merely estimates the rate of growth which would be sufficient to enable an increase in per capita income to a level where it would equal the per capita income in another specified area by a given elapsed period of time, all other rates of change assumed comparable and all other adjustments assumed perfect. It can be seen that this is a very unrealistic model. It serves, however, for a beginning; successive relaxations in the highly restrictive assumptions can be made in order to more nearly approximate a realistic situation. The most important relaxation will be made later in the discussion.

Suppose the per capita income of an economically developed nation is taken as the norm for economic development in a nation desiring to initiate development. (Obviously, as pointed out earlier, other goals are important, even in nations with the lowest level of economic development.) It seems reasonable to assume economic development is an important goal (or end-in-view) in most underdeveloped nations in the world today, and the norm to be

worked toward is, in fact, set in view of the kind of economic growth experienced in the most advanced Western economies.

For present purposes, Japan is taken for illustration. This choice is principally due to the fact Japan is a nation with a relatively low per capita income where an important agrarian reform has been undertaken within the last decade. Also, more information has been gathered and is available about the Japanese experience than that of any nation of comparable per capita income which has undertaken significant agrarian reforms.

Although Japan has the highest per capita income of any nation in Asia and is the most industrialized nation of the Far East, it is still an instructive nation to examine closely in discussing economic development. Its fundamental population-resource situation is much more similar to that of other Asiatic countries than that of the West. Historically, Japan has undergone remarkable economic development over the last century starting from a situation at the time of Commodore Perry's visit not dissimilar from that in many underdeveloped nations of today. Since the close of World War II many important economic and social adjustments to further economic development have been undertaken. And, finally, Japanese ethnic connections are quite close to other Asiatic peoples and quite different from the people of Western Europe and North America.

For these reasons, Japan may be considered as a form of pilot experiment in discussing the problems of, and showing the possibilities in, economic development starting from a low per capita income in a crowded region.

In terms of per capita real income as estimated in 1949, the norm of economic development would be the per capita income of the United States. (See Figure 1.)

It may be expected that the norm will not be static. It will be set in terms of a level of per capita income which is comparable to that of the nation chosen as a norm after the elapsed period of time during which economic development is contemplated. The goal of economic development in Japan may be taken as being to achieve the per capita income of the United States not at the level of the present time, but at the level which will be achieved in the United States after the contemplated period of Japanese economic development has elapsed.

In the United States from 1929 to 1950, two years when economic activity was high, the increase in "the real volume of output has averaged over this 22 year period slightly more than 2.75 per cent per year."[1]

In Japan in 1949 the estimated per capita real income was 100 United States dollars. (See Figure 1.)

Rate of Growth Models

The simplest model to indicate a rate of growth, then, would take the form:

$$Y_U (1 + r_{Y_U})^t = Y_J (1 + r_{Y_J})^t \qquad (1)$$

where:

Y_U = United States per capita income at beginning of economic development period

Y_J = Japanese per capita income at beginning of economic development period

r_{Y_U} = rate of growth of United States output per year

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1. United States Department of Commerce, Office of Business Economics, National Income and Product of the United States, 1929-1950 (Washington: United States Government Printing Office, 1951), p. 2.

r_{Y_J} = rate of growth of Japanese output per year

t = postulated period of economic development

Substituting the quantities suggested above, and taking 50 years as the period of economic development:

$$1453\ (1.0275)^{50} = 100\ (1 + r_{Y_J})^{50} \qquad (2)$$

and solving: $$r_{Y_J} = 0.0840 \qquad (3)$$

This gives an indicated rate of growth of 8.40 per cent per year in real output for Japan.

If, instead of 50 years, 100 years is suggested as the period of economic development, the rate of growth becomes 5.54 per cent per year. Both these estimates, it should be remembered, assume all other rates of change comparable and all adjustments perfect.

In relaxing the assumptions, the first and most important to be relaxed is the assumption that the rates of population growth are comparable.

The rate of population growth in the United States between 1940 and 1950 was 1.36 per cent per year. In Japan, the rate of population growth between 1947 and 1950 was 2.13 per cent per year.[2] By 1947 most of the Japanese who were going to had returned to their home islands from the former Japanese empire.

Japan has been classified as a Class II (high birth rate, low death rate) nation, well into the demographic transition.[3] It seems reasonable

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2. Statistical Office of the United Nations, Demographic Yearbook, 1953 (New York: United Nations, 1953 [U.N. Sales No. 1953.XIII.9]), pp. 87, 92.

3. Warren S. Thompson, "World Population Trends, Problems, and Policies," in John F. Timmons and William G. Murray (eds.), Land Problems and Policies (Ames: The Iowa State College Press, 1950), pp. 31-44.

if economic development can, in fact, be induced at the rate required, the rate of population growth will at the same time fall to a rate equal to that of the United States by the time the same per capita income is attained. That this is not without precedent is shown by the United States itself, where the rate of population growth between 1880 and 1890 was 2.30 per cent per year, and between 1890 and 1900 was 1.90 per cent per year.[4]

It may be assumed, however, that the United States, with a Class III (low birth rate, low death rate) population, will retain approximately the same rate of population growth.

With these assumptions about the rate of population growth, and still assuming other rates of growth comparable and adjustment perfect, it is possible to estimate the rate of growth which will be required if Japan is to reach the level of real per capita income as that in the United States in some given period. The model is as follows:

$$\frac{Y_U (1 + r_{Y_U})^t}{P_U (1 + r_{P_U})^t} = \frac{Y_{J_U} (1 + r_{Y_J})^t}{P_J \left[\mathcal{L}^{\frac{t(t-1)}{2}} (1 + r_{P_J})^t \right]} \qquad (4)$$

where the notation is the same as before with the following terms added:

P_U = United States population

P_J = Japanese population

r_{P_U} = rate of growth of United States population per year

r_{P_J} = rate of growth of Japanese population per year

$\mathcal{L}$ = factor to express decline of Japanese rate of population growth over time from the present rate to the United States rate of population growth by the time t.

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4. Statistical Office of the United Nations, op. cit., p. 87.

Substituting the suggested values, and postulating a period of growth of 50 years, and calculating α such that the rate of population growth declines from 2.13 per cent per year to 1.36 per cent per year, the model gives:

$$\frac{1453\ (1.0275)^{50}}{(1.0136)^{50}} = \frac{100\ (1 + r_{Y_J})^{50}}{P_J\left[\alpha^{1225}\ (1.0213)^{50}\right]}$$

and solving:

$$r_{Y_J} = 0.0881$$

The model thus indicates a rate of growth of 8.81 per cent per year. Postulating a period of economic development of 100 years gives an indicated growth rate of some 5.93 per cent per year.

These data are summarized in Table 5.

Table 5. Indicated rates of growth in Japanese economy needed to achieve defined levels of economic development

Rate of population growth (per cent)		Length of economic development	Rate of growth of per capita income (per cent)	
U.S.	Japan		U.S.	Japan
Comparable		50	2.75	8.40
Comparable		100	2.75	5.54
1.36	2.13 declining	50	2.75	8.81
1.36	2.13 declining	100	2.75	5.93

Obviously, the limitations imposed by the assumptions limit the usefulness of these rates of growth needed to achieve a given level of economic development. They can only be taken to indicate some idea of the order of the task of economic development. These growth rates roughly indicate the gap between the existential situation and the desired situation. For the Japanese to achieve a per capita income comparable to that of the United States in a period of 50 years would require a secular rate of growth some 3.2 times the rate of growth in the United States between 1929 and 1950--a formidable task indeed.

On the other hand, to make substantial strides in the direction of this growth seems quite possible. Although the Japanese economy only achieved the 1935-38 real per capita income level in 1952 after the setback during World War II, the Japanese real per capita income grew 35 per cent between 1948 and 1952.[5]

Certainly, if Japan, or any underdeveloped nation, is to achieve rates of growth on the order indicated, its agriculture must be developed; and in most underdeveloped areas, agrarian development, particularly substantial and rapid agrarian development, means agrarian reform.

It will be recognized that a similar estimate of required rates of growth could be derived for any other nation by substituting the relevant variables in the model. Also, should different norms be chosen, these, too, could be incorporated into the model.

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5. Statistical Office of the United Nations, Statistical Yearbook, 1953 (New York: United Nations, 1953[U.N. Sales No. 1953.XVII.9]), p. 422.

Application of Necessary Conditions for Economic Development

A rate of real growth on the order of that indicated above is obviously a task which would involve almost every facet of life in Japan, or any other country undertaking economic development on such a scale. It can be seen that such a rate will necessitate substantial adjustments in the area of each of the necessary conditions for economic development.

While the applications which follow are keyed to the Japanese situation, they are indicative to a degree of other underdeveloped nations, whether faced with a high population pressure or not. However, the applicability will be seen to be most direct in nations which do face the problem of population growth as characterized in the Class III nations.

The handicaps under which Japanese agricultural production works--high density of population and strictly limited physical area--have resulted in a domestically-produced food deficit for many years. The deficit is likely to continue into the future whether the rate of population growth continues at the present rate or drops to a rate more nearly comparable with Class I nations.

In almost no other nation is the relationship between economic and agrarian development (and thus agrarian reform) drawn in such sharp relief with such clearly defined problems. The adequacy of measures taken to solve the food problem (or their inadequacy) is certain to have an important influence on all economic development in the nation. Indeed, Ackerman,[6]

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6. Edward A. Ackerman, Japan's Natural Resources and their Relation to Japan's Economic Future (Chicago: The University of Chicago Press, 1953), p. 161.

after careful and exhaustive analysis of the Japanese natural resources position, asserts the size of the food deficit makes it "Japan's number-one economic problem and a political consideration of grave importance." The magnitude of the food problem is indicated in Table 6. The growth of the Japanese population is indicated in Table 7.

Table 6. Actual 1950 and possible 1956 indigenous Japanese food supply and relative sufficiency[a]

Food	Calories (billions)		Protein (tons)	
	1950 actual	1965 estimate	1950 actual	1965 estimate
All food crops	48,801.0	63,377.2	1,287,026	1,655,234
Meat, eggs, and dairy products	452.4	928.0	46,562	95,881
Fishery products	2,297.7	2,520.7	336,949	398,490
Miscellaneous	282.9	359.3	151	192
Total indigenous food	51,833.9	67,185.2	1,670,688	2,149,797
Requirements at 2,250 calories and 70 gms. protein daily	67,958	83,214	2,330,551	2,853,750
Domestic supply as per cent of requirements	76.3	80.7	71.7	75.3

[a]Adapted from Ackerman, op. cit., p. 457.

Table 7. Population and index of per capita income of Japan, 1850-1970

Year	Index of per capita income (1948 = 100)[a]	Population (millions)	Estimated population[f] (millions) min.	med.	max.
1850	...	27.2[b]			
1873	...	35.0[c]			
1887	35	...			
1897	35	...			
1903	...	45.5			
1908	48	...			
1914	57	...			
1920	64	56.0			
1925	100	59.7			
1930	110	64.5			
1935	136	69.3			
1940	...	73.1[d]			
1948	100	80.0			
1950	115	83.2[e]	83.0	83.4	83.7
1952	135	85.5	84.9	85.9	86.7
1955			87.7	89.5	91.2
1960			92.1	95.5	98.7
1965			96.2	101.3	106.2
1970			99.9	106.7	113.4

[a]Adapted from Statistical Office of the United Nations, op. cit., p. 422 and related to series presented in Colin Clark, The Conditions of Economic Progress (London: Macmillan and Co., Limited, 1940), p. 114. These data must be interpreted with caution and taken as grossly indicative only.

[b]Colin Clark, "World Resources and World Population," in United Nations Scientific Conference on the Conservation and Utilization of Resources, Proceedings, Vol. 1 (Lake Success, New York, August 17 to September 6, 1949 [United Nations Sales No. 1950.II.B.2]), pp. 15-26.

[c]Data for 1873 to 1940 from G. C. Allen, A Short Economic History of Modern Japan (London: George Allen & Unwin, Ltd., 1946), p. 163.

[d]Ackerman, op. cit., p. 2.

[e]Data for 1950 and 1952 from Statistical Office of the United Nations, Demographic Yearbook, 1953, p. 75.

[f]Adapted from Supreme Commander Allied Powers in Japan estimates quoted in Ackerman, op. cit., p. 7.

Subsistence norm

The concept of a subsistence norm has never been well established in Japan, nor, of course, in any underdeveloped nation. Population pressure and the overriding desire to increase national wealth and power in the last century prevented much more than rudimentary attention to the subsistence norm until very recently.

In present-day Japan, as was true in the Japan of a century ago, the concern of economic development is more to increase national real income than to affect its distribution. Nonetheless, unlike the situation of a century ago, modern Japan is aware that more widespread distribution must accompany increases in total wealth as economic development proceeds. Likewise, it is recognized that economic development today is dependent upon active support and participation on the part of the general working public, a situation not so true in the disciplined, emerging feudal state of 100 years ago.

Under the feudalism which existed until the first half of the 19th century, there was some paternalistic feeling among the nobility for their peasants, although upperclass Japanese are accused of thinking "highly of agriculture but not of agriculturalists."[7] The agrarian policy is characterized in a well-known Japanese saying, "to impose taxes upon farmers to such an extent that they could neither live nor die."[8]

As economic development continued, however, there were a few examples of attention to the subsistence norm, and, as pointed out earlier, per

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7. E. Herbert Norman, Japan's Emergence as a Modern State (New York: Institute of Pacific Relations, 1946), p. 21.

8. Ibid.

capita income and consumption increased. One peculiarly Japanese institution which was in some measure a recognition of the subsistence norm is pointed out by Rosen.[9] Japanese industrial and commercial firms are generally overstaffed, which, he notes, arises from a traditional inclination to maintain employment regardless of output. Rosen comments that this tradition may well be considered "a social cost representing a form of employment guarantee in a country with a great pressure of population."

There was protective labor legislation, but the standards set by these laws were unduly low, coverage was limited, and enforcement was weak. The inadequacy of the protection afforded is in part indicated by the notoriety Japan gained throughout the world for "social dumping," for substandard wages, working conditions, and exploitation of women and children. During World War II even such protection as was afforded by this legislation was diminished, and wage control measures were inadequate to keep wages equal to rising living costs.

During the occupation after the war, a group of labor welfare legislative acts were passed. These acts established unemployment insurance, employment services, workman's compensation, and working standards for non-agricultural workers, including employment standards and unemployment compensation for seamen.[10] They had important effects in freeing laborers from a subservient loyality to labor "bosses."

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9. George Rosen, "Japanese Industry Since the War," Quarterly Journal of Economics, Vol. 67, No. 3 (August, 1953), pp. 445-463.

10. Supreme Commander for the Allied Powers, Economic and Scientific Section, Programs and Statistics Division, Mission and Accomplishments of the Supreme Commander for the Allied Powers in the Economic, Scientific, and Natural Resources Fields (Tokyo: Supreme Commander for the Allied Powers, 1952), p. 69.

One interesting postwar development affecting the subsistence norm is the fact that Japan has constructed more dwelling units since 1946 than any other nation of the world excepting the United States.[11] From August 1946 through January 1952, over 2 million residential housing units were constructed. At the same time, home ownership in urban areas has become much more widespread. In 1941 only 20.1 per cent of urban dwellings in the six major cities was owner-occupied. By 1948 this had grown to 40 per cent of the total, and by 1950 to 46 per cent. During the immediate postwar period, nearly 75 per cent of the new units constructed was for owner-occupation. The Economic and Scientific Section, SCAP, notes this change may in large part be attributed to "lack of incentives for large-scale private investment" in rental units, principally artificially low rents.

Factor rewards in accordance with productivity

Historically in Japanese economic development, little attention has been paid to the problem of assuring factor rewards in accordance with productivity. For example, unlike modern land redistribution programs, the redistribution of the Meiji era aimed not at assuring the cultivator a return in accordance to his productivity, but rather to establish a tax base to provide a stable revenue. The effect of this measure was to saddle peasants with a heavy tax load unrelated to their income. In turn, far from assuring the cultivator a return in accordance to his efforts, the redistribution had the effect of worsening his form of tenure, exchanging landlords and money-lenders for feudal overlords. The excessively high fixed costs may well have had the effect of reducing the economic incentive

11. Ibid., p. 2.

for the cultivator to produce at the optimum level of output.

Nevertheless, the Meiji era did see an improvement in the level of living of the Japanese population as a whole. The index of per capita income rose from 35 in 1887 to 135 in 1952 as indicated in Table 7. The per capita rice consumption rose from 3.97 bushels in 1880-84 to 5.26 bushels in 1935-37 as indicated in Table 8.

Table 8. Japanese per capita rice consumption, 1880-1937[a]

Period	Consumption (bushels)	Period	Consumption (bushels)
1880-84	3.97	1910-14	5.31
1885-89	4.61	1915-19	5.61
1890-94	5.01	1920-24	5.46
1895-99	4.71	1925-29	5.65
1900-04	5.21	1930-34	5.36
1905-09	5.31	1935-37	5.26

[a]Adapted from Allen, op. cit., p. 171.

Although both per capita real income and per capita rice consumption (and thus presumably all food, although figures are unavailable) rose in the immediate prewar period, little direct attention seems to have been paid to them.

After the war, under the stimulation of the occupation, greatly increased attention was paid to assuring a more widespread distribution of economic goods and services in Japan.

The postwar agrarian reform program under which more than 50 per cent of the farm households in Japan acquired land is the most interesting

attempt to affect the distribution of income and to assure the cultivator receives a reward in accordance to his productivity.[12] Ackerman[13] characterizes this reform as "probably the greatest single change made in Japan during the occupation." Hewes writes:[14]

> The Japanese land reform program is neither an adventure in utopian idealism nor a phase of social revolution. It is a hard-headed attempt to relieve farmers of the burden of an oppressive landlord system. . . . Its objective is to encourage ownership of individual farm units by working cultivators so that these "shall have more equal opportunity to enjoy the fruits of their labor."

This agrarian reform is discussed in more detail later in this study.

Another reform of similar meaning, designed to assure workers a reward in accord with their productivity, was the fisheries reform, although fewer people were affected by its results.

The principal objectives of the fisheries reform were: (1) to give fishing rights to the operators of the fishing fleet by removing the control of these rights from absentee owners; and (2) to replace the "boss-control fisheries associations" by co-operative fishery associations.[15]

Prior to September 1951 when Fisheries Law No. 167 went into effect, only 32 per cent of the fisheries rights were owner-operated. Within 2 years, most of the remaining 68 per cent, comprising some 30,000 rights, were transferred to working fishermen, with former owners compensated by

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12. See Laurence I. Hewes, Jr., Japanese Land Reform Program (Tokyo: Supreme Commander for the Allied Powers, 1950), p. 91.

13. Ackerman, op. cit., p. 569.

14. Hewes, op. cit., p. 93.

15. Supreme Commander for the Allied Powers, Economic and Scientific Section, Programs and Statistics Division, op. cit., p. 69.

government bonds. Fishermen are thus assured a return in accordance with their productivity. The Economic and Scientific Section, SCAP,[16] asserted:

> Correcting abuses arising from feudalistic ownership of fisheries rights is as important to the fisherman as land reform was to the tenant farmer. . . . The success of the Fisheries Reform Program will be a most effective deterrent to the growth of Communism along Japan's sea coast as land reform has retarded the spread of Communism in rural areas.

In the urban sector of the Japanese economy, labor unions and formal worker rights were virtually nonexistent until after the war. The Mobilization Act of 1938 had established government control of wages, hours, and labor conscription. The establishment of the Industrial Patriotic Society (Sampo), the government-controlled labor front, in 1940 had ended the free existence of the comparatively few labor unions in existence at that time. The Japanese labor movement traces its development from the euphemistically named Friendly Love Society, founded in 1912. Union membership grew slowly, reaching a peak of 6.9 per cent of the nonagricultural laborers in 1936.[17]

These unions lacked machinery for detailed handling of collective bargaining, grievances, and other purely economic issues. Rather, they engaged extensively in political activity. Some strikes on economic issues did occur, and in 1926 the right to strike was legalized. However, the union movement was excessively conservative, and finally passed from the scene for all effects and purposes with the institution of the Sampo

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16. Ibid., p. 71.

17. Ibid., p. 44.

placed under the direction of the Welfare Ministry. At the end of the war, labor conditions were chaotic.

Almost immediately after the occupation began, the Supreme Commander issued instructions that unionization was to be encouraged, and by June 1950 45.9 per cent of the industrial population was unionized in some 28,144 unions with a membership of 5,774,000.

Through these unions collective bargaining agreements covered roughly half the industrial laborers, and during the occupation several purely economic strikes were undertaken. Well over 1000 cases per year of mediation and unfair labor practices are now handled by the Japanese Labor Relations Commissions.[18] The overall effect of occupation labor action was to raise real wages and to shorten the hours of work.[19]

An important move toward more widespread distribution of ownership in the Japanese economy has been the so-called "democratization" of Japanese business during the occupation. Prior to the war, the Japanese economy had been dominated by the Zaibatsu, a few powerful families who controlled the major part of Japanese industry, mining, finance, and commerce. Japan was a land of private internal economic empires, characterized by international and domestic cartel agreements, pyramids of operating and holding companies, and monopoly control of basic resources, industries, and financial concerns. After the Japanese surrender, the occupation authorities designated 57 members of 11 families as Zaibatsu, and their securities were taken over and sold to the general public. The Zaibatsu were compensated

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18. Ibid., p. 46.

19. Rosen, op. cit., p. 453.

with the proceeds. The occupation authorities similarly broke up the 32 most important holding companies and broke up the monopolistic Mitsui and Mitsubishi trading companies. Anti-monopoly laws were passed to prevent a resurgence of these groups.[20]

Increased efficiency of labor

As in so many underdeveloped nations, labor is the most important resource in Japan. This re-emphasizes the necessity of increased efficiency of labor if economic development is to take place.

In the agricultural sector, labor productivity seems to have doubled in a span of the 30 years from about 1885 to 1915, and total agricultural output seems to have increased some 80 per cent over the same period, a substantial accomplishment.[21] Japanese agricultural crop production has the highest per acre yield in the Far East, and for many crops the highest in the world. Average paddy rice yields in 1952 were 60 bushels per acre in Japan, substantially above the Asian average of 24 bushels per acre. The barley yields per acre were second only to Denmark.[22] Of course, labor inputs in agriculture are high by Western standards.

Nonetheless, the food production projected in Ackerman's[23] estimates of possible production by 1965 (see Table 6) "even though . . . in the

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20. Supreme Commander for the Allied Powers, Economic and Scientific Section, Programs and Statistics Division, op. cit., p. 39 ff.

21. Bruce F. Johnston, "Agricultural Productivity and Economic Development in Japan," Journal of Political Economy, Vol. 59, No. 6 (December, 1951), p. 500.

22. Food and Agriculture Organization of the United Nations, Yearbook of Food and Agricultural Statistics, 1953, Vol. 1 (Rome: Food and Agriculture Organization of the United Nations, 1954), p. 43.

23. Ackerman, op. cit., p. 456.

main conservative on a physical basis" would require "that the Japanese become more efficient in production than any nation in history probably has been."

Likewise, continued economic development depends upon increased efficiency in urban labor, even though the past 100 years has seen tremendous strides in this direction.

Increased efficiency of capital

Japan is of particular interest in studying economic development of underdeveloped nations since, as contrasted with Western nations which have achieved a fairly high level of economic development, Japanese economic development required relatively less capital. Johnston,[24] citing the increase in agricultural productivity, points out:

> These gains were predominantly the result of increased use of fertilizers and advances in farm technology introduced into the existing structure of Japanese agriculture. Moreover, the requirements for capital funds were small and consisted mainly of increased requirements for working capital for the purchase of commercial fertilizers.

The outstanding historical example of capital use in Japan was the novel arrangement by which the government was able to siphon the proceeds of agriculture into nonagricultural development through a series of economic devices. Between 1869 and 1873 the Meiji administration eliminated the last legal vestiges of feudal landholdings by transferring ownership of land to cultivators. This had two beneficial effects on economic development, although exacting a heavy toll from peasant cultivators. First, the transfer of land to private ownership and the removal of restrictions

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24. Johnston, op. cit., p. 511.

against alienation opened the way for a stable real property tax revenue. Cultivators became liable for taxes in currency, providing the government with a stable source of revenue unaffected by fluctuations in crop yields. This revenue was used by the government to encourage nonagricultural economic development. But the new arrangement worked a hardship on the cultivator. The rate of the tax was set at 3 per cent of the value of the holding per year, later lowered by 2.5 per cent. At this rate, peasants were pressed to meet their assessments, and Norman[25] estimates there was a 25 per cent increase in the area worked by tenant farmers between 1880 and 1890, the first decade when the tax was in full operation.

A second effect of the redistribution of land to peasant cultivators came as a result of the compensation paid dispossessed feudal landholders. The government compensated these former landholders in the form of pensions, lump sum settlements, and bonds. At the same time, the government began making available to private investors and managers the model enterprises it had begun in an effort to initiate economic development. As a result, as Norman[26] observes, "the feudal lord ceased to be a territorial magnate drawing his income from the peasant," but instead turned his talents to investing his "freshly capitalized wealth" in banks, stocks, and industry. This effect was "dramatic but not unexpected" and the government was able to shift the efforts of a large number of educated leaders toward promoting

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25. Norman, op. cit., p. 146.

26. Ibid., p. 94.

economic development. Johnson and Metcalf[27] and Kramer[28] suggest a similar effect might be realized in other underdeveloped areas today. Suitable adjustments in the administration of the program would eliminate the heavy burden of the program on cultivators, particularly the organization of adequate credit facilities.

Further economic development, however, is seriously handicapped by a continuing shortage of investment capital. Current published bank rates average about 12 per cent, and the free market rates are substantially higher.[29] Ackerman states the need for capital in Japan is more intense at present than ever before.[30] Rosen[31] predicts these abnormally high interest rates will probably be reduced in the future as changes are made in the banking system to re-establish the provision of long-term credit, making it unnecessary to get such credit by constantly renewing short-term loans.

An interesting application of capital to labor is found in the widespread Japanese practice of subcontracting to very small producers--often family enterprises employing no outside labor. This enables the firms to tap a large source of home labor for the output of component parts--even

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27. V. Webster Johnson and John E. Metcalf, "Land Redistribution and Economic Development," Land Economics, Vol. 29, No. 2 (May, 1953), pp. 155-160.

28. Irving I. Kramer, "Land Reform and Industrial Development in Meiji Japan," Land Economics, Vol. 29, No. 4 (November, 1953), pp. 314-322.

29. Background Notes on the Japanese Economy (Washington: Department of State, 1954), p. 3.

30. Ackerman, op. cit., p. 573.

31. Rosen, op. cit., p. 461.

machined components--although perhaps at some sacrifice of quality and uniformity. This also has its drawbacks in making Japanese firms reluctant to install expensive modern machinery in central factories.

Rosen[32] also points out the organization of Japanese firms, because of limited domestic demand, is designed to enable the firms to turn out a wide variety of items, giving industry a flexibility in shifting from one product to another.

Increased efficiency through adjustments in economic institutions

Japanese efforts to increase efficiency through adjustments of economic institutions--and the attendant political adjustments--are a characteristic feature of Japanese economic development.

The shift from a feudal to a capitalistic society, consciously undertaken during the latter half of the 19th century, by the nation as a whole is perhaps the outstanding national adjustment of economic institutions within the framework of capitalistic democracy. Certainly it ranks as of equal interest to the conscious reorganization of economic institutions which has occupied the Soviet Union since 1917.

The conscious effort to adjust economic institutions to induce economic development was first undertaken soon after the famous "opening" of Japan to the West by Commodore M. C. Perry in 1854.

Prior to that time Japan had carefully withdrawn from Western contact in an effort to preserve its independence and freedom from outside control. But after Perry's visit, new forces came into control of the government marking the beginning of what has come to be known as the Meiji era. The

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32. Ibid., p. 450.

new rulers were impressed by evidences of Western technology embodied in naval armadas of seemingly invincible strength and the arrival of textiles and other Western items of commerce. Consciously they set about to remake Japan. Their ideal was a nation of industrial and military strength comparable to that of the West, and thereby able to retain its independence and cultural heritage.

The leaders set about to create economic institutions which would enable the creation of the industrial state they envisioned. They set up model industries for private investors to imitate in such areas as heavy industry, engineering, mining, shipbuilding, and other "strategic" industries. Later the government subsidized light consumer-goods industries. A Department of Industrial Affairs was set up to promote economic development by starting and managing industries. A bureau was established to encourage foreign trade, and banking facilities were expanded to serve the new industrialism.

By 1880 the government had established cotton and woolen mills, clothing factories, printing shops, a fire-brick factory, shipyards, ammunition works, mines, railroads, and a telegraph system.[33] After that time the government began to withdraw from industrial firms of a nonmilitary character, turning them over to private investors, many of them dispossessed feudal landholders investing their compensation payments. However, government ownership continued to be important, and in 1925, approximately 20 per cent of the workers and nearly 33 per cent of the capital of Japan were engaged in government enterprise.[34]

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33. Allen, op. cit., p. 30.

34. Norman, op. cit., p. 104 ff.

Through these methods in a space of some 60 years, Japan had been transformed into an industrial state, equipped with all the resources of applied science and technology, and capable of producing efficiently most types of manufactured products. She had established adequate systems of finance and communications. She was a world power.

World War II caused an interruption in Japan's economic development. Under the pressure of her encircling enemies, cut off from her sources of raw materials, and subjected to aerial bombardment, her industrial plant suffered heavy destruction and deterioration. Some idea of the extent and rapidity of Japanese economic development and postwar rebuilding is presented in Tables 7 to 10.

Table 9. Indices of Japanese total and manufactured goods production (1905 = 100)[a]

Year	Total production	Manufactured goods
1905	100	100
1907	115	108
1910	126	121
1913	157	164
1916	194	222
1920	232	289
1921	219	274
1924	258	366
1926	285	435
1929	328	532
1931	302	475

[a]Adapted from Allen, op. cit., p. 173.

At the end of the war, the Japanese people faced the threat of starvation. Fertilizer shortages, combined with adverse weather and chaotic economic conditions, reduced food harvests to the lowest level since the first decade of the century, an index of 88.7 (1921-25 = 100; see Table 10). However, in the next few years production rapidly increased until in 1950 it stood at an index of 133.6. Even so, continued population increases and the need to improve dietary levels leads Ackerman[35] to assert that "among Japanese needs, food certainly takes precedence over all others." He estimates it would be possible to increase food production 48.5 per cent by 1965 with a "full-scale" effort based on "intelligent action." (See Table 6.)

Ackerman suggests five approaches to increase indigenous agricultural food production;[36] (1) extension of the present cultivated area; (2) physical improvement of present cultivated land; (3) improvement of crop varieties; (4) increasing use of fertilizers, especially chemical; and (5) control of fungus, virus, and insect crop pests. To achieve the proposed 1965 food output would also require intensive concentration on expanding fishery production.

An efficient program to accomplish this increased food production would involve;[37] (1) pursuit of drainage improvement, addition to area, soil improvement, flood and erosion control in a more vigorous manner than previously; (2) reorganization of research relating to crop production to

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35. Ackerman, op. cit., p. 376.

36. Ibid., p. 455.

37. Ibid., p. 376.

Table 10. Index of Japanese staple food crop production, 1873-1950 (1921-1925 = 100)[a,b]

Year	Production	Year	Production
1873	28.6	1935	111.1
1880	37.2	1936	123.2
1890	50.1	1937	124.8
1900	65.3	1938	120.8
1910	76.4	1939	130.5
1920	104.1	1940	119.7
1921	96.4	1941	111.0
1922	100.7	1942	125.2
1923	96.0	1943	117.7
1924	98.9	1944	117.0
1925	106.8	1945	88.7
1926	102.0	1946	109.7
1927	109.5	1947	111.6
1928	108.5	1948	126.5
1929	108.8	1949	127.7
1930	117.9	1950	133.6
1931	104.2		
1932	108.4		
1933	125.7		
1934	101.0		

[a]Adapted from Allen, op. cit., p. 169 for data from 1873-1934 and from Ackerman, op. cit., p. 85 for data from 1934-1950.

[b]Includes brown rice, wheat, naked barley, barley, sweet potatoes, and white potatoes.

give a more integrated, interdisciplinary approach; (3) organization of an extension service; (4) promotion of forage and grassland increases; and (5) concentration in fisheries research on means to assure the maximum sustained output.

Such a program, Ackerman[38] asserts, recognizes the advantages of immediate food increases, deficiencies in agricultural administration, the strategic position of research, and the uncertainties of the long-term foreign exchange outlook. To carry out such a program would, of course, necessitate substantial adjustments in economic institutions, and also along the other lines of action suggested by the necessary conditions for economic development.

Under the aegis of the occupation, other adjustments in economic institutions were undertaken. Much of the land reform program, the fisheries reform, and the encouragement of labor unions can be viewed as adjustments of economic institutions in the interests of providing better incentives and more assurance of reward as a means not only of achieving a distributive goal but of increasing labor efficiency.

Other types of adjustments in economic institutions can be suggested. Rosen[39] reports that an institutional factor making for higher costs in Japanese industry is "frequent ignorance of Japanese producers as to what their costs actually are, or how they should be computed." He also suggests that the elimination of weaker firms will "improve sales in foreign markets, concentrate production in fewer (and possibly more efficient)

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38. Ibid., p. 454.

39. Rosen, op. cit., p. 456.

firms" and allow a firmer basis for assuming the risks of selling in international markets.

Japanese businessmen are aware of the necessity for these adjustments in economic institutions. Rosen[40] reports the steel industry has begun a program of rationalization and the introduction of more modern machinery which it is hoped will reduce steel costs 20 per cent. A further modernization program is currently being developed. The machinery industry, in attempting to take advantage of institutional adjustments in the steel industry, had entered into some 344 technical assistance contracts with foreign concerns by the end of 1953, an increase of 130 during the year.[41]

For continued economic development, Japan must develop export markets. Both industry and government are active in sending trade missions and in attempting to build trade, especially in southeast Asia, but the total volume of exports is still well below the prewar peak. Her trade problems are hampered by the previous interest of European nations in Asiatic trade, by tariffs, currency restrictions, and a lingering resentment in Asia against Japanese aggression.

Increased efficiency through adjustments of social institutions

As was the case in the discussion of the increased efficiency through adjustments of economic institutions, much of the economic history of Japan over the course of the last century bears upon far-reaching adjustments of social institutions. The conscious scrapping of feudalism for industrial

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40. Ibid., p. 460.

41. Background Notes on the Japanese Economy, p. 5.

capitalism, the establishment of model industries, and the harnessing of traditional agrarian servility to provide means for industrialization all represent adjustments of social institutions. During the immediate prewar and war periods, Japanese military leaders skillfully used lingering feudal attachments and legendary Japanese tradition to build a loyalty to the military effort.

The presence of these lingering traditions was noted by Veblen[42] 40 years ago who commented that it was Japan's opportunity to make the best of both worlds, the feudal and the capitalistic, while it could.

After the war, major cultural adjustments came in the land reform which changed the ownership pattern of rural land, giving new status to cultivators. Similar adjustments came in the fishing industry, and through the revitalization of the labor movement, the "democratization" of Japanese industry was likewise an adjustment with important political ramifications.

In the future, the role of government in the Japanese economy may be expected to continue to be important. This is in line not only with the world-wide re-evaluation of the place of government in economic life, but also with the vital importance of international trade and commerce in the Japanese economy. Many of the problems faced in building up export markets and in securing imports will have to be solved at the governmental level. Increased government financing of rationalization and expansion programs is also probable, for similar reasons.

One author points out continued economic development will require an

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42. Thorstein Veblen, Essays in Our Changing Order (New York: The Viking Press, 1934), pp. 248-266.

adjustment in the Japanese social tradition of emphasis on age and seniority in leadership which "acts as a retarding element in giving younger men positions of responsibility, and in the application of their ideas or research."[43]

A readjustment of the Japanese viewpoint toward research also seems necessary for continued economic development. The long Japanese tradition of borrowing and adopting Western techniques is a handicap to investing in independent basic research by Japanese firms. The future outlook is for greater government activity in supporting research in all fields. Most research is hampered by a severe shortage of funds and of qualified personnel. With Japan's problems of abundant labor but a shortage of raw materials, future economic development is dependent upon research aimed at solving these problems--problems which are quite different from those of the advanced Western technologies.[44]

To effect some of the needed adjustments in economic, cultural, and political institutions which will be needed in the future, the Japanese after the war established the Economic Stabilization Board. This Board, organized into a number of councils concerned with different areas, is charged with the responsibility of planning a co-ordinated attack on problems of long-term economic development.[45]

For efforts at economic development to be successful, the people of the nation must feel the need for more co-ordinated effort in the national

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43. Rosen, op. cit., p. 461.

44. Ackerman, op. cit., p. 548.

45. Ibid., p. 552.

interest, and must have a personal sense of participation. Less of this sense of participation seems to exist than is necessary at the present time if substantial economic development is to occur.[46]

One of the most important problems facing Japan, of course, is population growth and the cultural attitude toward birth control. The phenomenal growth of Japanese population as industrialization proceeded has been pointed out. Earlier, however, there are indications that conscious birth control practices--even infanticide--were an accepted part of Japanese culture. It is interesting to note, therefore, that a Japanese public opinion survey taken in 1951 indicated that 60 per cent of those interviewed favored family limitation. Twenty per cent of those interviewed had limited the size of their families, and 30 per cent "expressed a desire to do so in the future."[47]

Perhaps the overriding political requirement for Japanese economic development in the future is political stability--both on the domestic and the international scene.

Increased efficiency through dissemination of information

Historically, the establishment of model industries may be considered a method of disseminating information. More recently, efforts have been made since the war to improve the agricultural extension services. The problem here is not so difficult as in other Asiatic nations, since Japan has one of the highest literacy rates in the world. It has been pointed

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46. Ibid., p. 570.

47. Population Problems Research Council, A Survey of Public Opinion in Japan on the Readjustment of Over-Population (Tokyo: Population Problems Research Council, 1951), pp. 29-30.

out that Japanese farmers have the information which enables them to maintain some of the highest per acre yields in the world. Ackerman[48] reports that dissemination of easily understood developments, such as the desirability of new crop varieties and the value of chemical fertilizers, has been accomplished "as thoroughly as could be expected," but that "more complex information, such as that relating to methods of cultivation, forestry practices, or fishing methods, has not fared so well."

In industry, mention has been made of technical assistance contracts in the steel and machinery industries, indicating a desire for information. Reluctance of foreign firms to exchange information, based on bitter prewar experiences of pirating, and a resurgent nationalism may, however, present as much dissemination of information in Japanese industry as would be most desirable.

Lastly, the importance of research to bring to light new information to enable a fuller and more efficient use of existing resources by Japanese labor has been pointed out.

An interesting twist in the application of technical information comes in the repeated suggestion that Japanese economic development can be fostered not alone by technical assistance from the West and by the United States in particular, but also by technical assistance on the part of Japan to her Asiatic neighbors.[49] In fact, there are many areas where Japanese experts may well have much more of relevance to offer Asians interested in economic development than have Westerners.

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48. Ackerman, op. cit., p. 551.

49. See, for example, Ackerman, op. cit., p. 573.

Japanese problems, it is pointed out, are much more nearly parallel to those of underdeveloped countries than those of the West. This has been just as true in the past as it will be in the future. The techniques and methods by which Japan has achieved the highest per capita income in Asia are all more immediately applicable to underdeveloped nations than the techniques of the United States. Most of the Japanese innovations in industry and agriculture were capital-saving and labor-intensive in their effect. They were adapted to the needs of a crowded country with limited resources. Japanese experts were instrumental in effecting the land reform, even if the reform were carried out with the support and help of American occupation experts. Their help could be invaluable to other Asiatic nations. And the very racial composition of the Japanese might avoid Asiatic resistance to occidental assistance, despite the recent Japanese aggression.

From the standpoint of Japan's own economy, the export of skilled technicians to other Asiatic countries would increase her invisible earnings in shipping and commerce, help overcome some of the resentment toward Japan, and, indirectly as it raises standards of living, increase the demands for Japanese merchandise exports.

The problems of continued rapid economic development in Japan are large. But there are grounds for optimism that substantial gains can be made. The experience of Japan in solving past problems and tackling present ones is applicable to underdeveloped nations throughout the world and more particularly in Asia, even though local problems vary. Whether the Japanese--or any other people--are willing to pay the price in terms of effort and social adjustment necessary to achieve economic development is

another question altogether, and outside the present inquiry. (See Bronfenbrenner's[50] discussion of costs of economic development.) The indications are, however, that Japan, in common with nearly every other nation in the world today, attaches great importance to economic development, and is willing to pay much of that necessary price for economic development.

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50. Martin Bronfenbrenner, "I. The High Cost of Economic Development," Land Economics, Vol. 29, No. 2 (May, 1953), pp. 93-104.

INTERRELATIONSHIPS BETWEEN AGRARIAN REFORM AND ECONOMIC DEVELOPMENT

The nature of economic processes as demonstrated by the framework of the means-ends continuum is such that agrarian reform measures must of necessity be considered in terms of their effects on over-all economic development. Similarly, the interrelationships among the institutional forms of rural society and between them and agricultural production are such that no one agrarian reform measure can be properly evaluated without considering its effects on other aspects of agrarian life. The necessary conditions for economic development provide the framework for this analysis. As an example, a land redistribution program must be planned and evaluated bearing in mind that credit may be necessary to replace landlord capital and to enable newly-established cultivators to organize their farms for optimum production. Since the redistribution program will draw on the general resources of the society and its effects will influence general economic development, the redistribution must be evaluated in terms of the effect on economic development as a whole.

Nature and Scope of the Concept of Agrarian Reform

From the sections which follow, it may be seen that the scope of the concept of agrarian reform is very broad.

The concept has expanded tremendously since World War I. After the Treaty of Versailles a wave of rural reform measures swept over the whole of Europe. Generally these rural reforms were termed "land reforms," and

the concept of both the objectives and the scope of the reform program was similarly narrowed to include principally a redistribution of ownership rights in the land. Land reforms were among the first measures passed by the newly constituted legislatures of nearly all the hopeful band of democracies established in eastern Europe.[1] The success of these reform measures was limited, it is generally agreed, because of the restricted measure of the ancillary services provided.

Since that time there has been an increasing recognition of the importance of a broad and well integrated program of credit, extension services, and marketing, in addition to desirable adjustments in the tenure system, when planning an agrarian reform. Similarly, it is being recognized that agrarian reform must be consciously fitted into a general program of over-all economic development.

An important indication of the scope of current thought in agrarian reform is the extensive resolution adopted by the United Nations Economic and Social Council on September 7, 1951, and subsequently endorsed by the General Assembly. This resolution 370 (XIII) of the Council entitled "Economic Development of Under-Developed Countries, Land Reform" recognized:[2]

> . . . that appropriate measures of land reform designed to achieve improvement of the conditions of agricultural populations and an increase in agricultural production must in many countries be regarded as a necessary part of any effective implementation of comprehensive programmes for economic development. . . .

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1. V. Alton Moody, "Agrarian Reform Before Post-War European Constituent Assemblies," Agricultural History, Vol. 7, No. 2 (April, 1933), pp. 81-95.

2. Report of the United Nations Economic and Social Council, 13th session, September 21, 1951, Paris.

The resolution further recommended "that Governments institute appropriate land reforms in the interest of landless, small, and medium farmers." The Council then outlined some 16 different areas of recommended measures included in its concept of land reform. These included improving tenant security, providing opportunity for cultivators to acquire ownership of land, promoting economic holdings, consolidation, subdivision of "unduly large" holdings, reclamation and settlement, credit, rent controls, equitable taxation, promoting co-operative cultivation, marketing and processing improvements, encouraging diversification, promoting agricultural development as part of an integrated program of over-all economic development, encouraging rural industries, providing for servicing of agricultural machinery, insuring adequate research, establishing and expanding extension services, and improving the social and legal status of plantation labor.

It can be readily appreciated that such a broad concept involves extreme interrelationships. This is true not only in the sense of common or overlapping causes, but in the sense that reduction of resource inefficiencies in these various areas involves overlapping programs. Agrarian problems, indeed, are insoluble in isolation, and Jacoby[3] suggests certain reform measures, especially redistribution of ownership rights, can be positively dangerous to a society if improperly integrated.

Recognizing the range of possible measures which are included in an adequate concept of agrarian reform, it may be seen that not only must steps be taken to solve many different problems simultaneously, but also

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3. Erich H. Jacoby, Inter-Relationship between Agrarian Reform and Agricultural Development (Rome: Food and Agriculture Organization of the United Nations, 1953), p. 34.

an integrated program proposed for a nation must be carefully considered in the light of the problems existing in that particular nation and the cultural environment of that nation. Jacoby[4] points out that it is futile even to attempt to construct a "perfect tenure system for general use," and it would be similarly futile to attempt to outline a perfect agrarian reform program. Every reform must be suited to the culture it is intended to serve. The success of an agrarian reform in promoting agricultural and over-all economic development is to a large measure dependent upon the degree it can be made to harmonize with the existing cultural matrix and to adapt existing social and economic institutions to promote progress toward fulfilling the necessary conditions of economic development.

The complexity of agrarian problems and the many alternative means to solve them will give rise to different agrarian reforms suited to different nations and different cultures. These programs will approach the problem of agrarian development through widely different measures of agrarian reform. One need only compare the Mexican attempt to solve agrarian problems through the establishment of a collective farming system, the efforts of Denmark to establish owner-operators, and the attempts of Great Britain to perfect an agrarian system based on almost universal tenancy with rigid and explicit protective measures.

The present study of agrarian reforms is principally directed toward those institutional structures of the agrarian society in underdeveloped areas which are obstacles to improving the efficiency of resource use in agricultural production. When viewed as causes of resource inefficiencies,

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4. Ibid., p. 8.

the relationship of these structural defects to the conditions necessary for economic development may be clearly seen.

Certain areas of concern which might perhaps be considered within the scope of agrarian reform are not considered in the present study except as they are directly related to points being examined. Most important probably are the problems of marketing and storage which are so complex and important of themselves as to warrant wholly separate study. Because they are closely related to marketing, co-operatives per se are not explicitly discussed, although co-operative action in certain other fields is considered.

The concerns of this study are principally with institutional relationships, land use practices, cultivation techniques, crop varieties, and conservation of soil resources are discussed only to the extent they relate directly to the problems of overcoming resource inefficiencies engendered by institutional relationships.

Finally, influences of price fluctuation arising outside agriculture and dealt with in the West primarily by legislative action to regulate prices or transfer income are not considered directly.

Agrarian Reform and Economic Development

This study repeatedly emphasizes the proposition that agrarian reform must be evaluated in terms of over-all economic development. From a theoretical point of view, this is a logical necessity arising out of the means-ends continuum, and, given the framework of human values postulated earlier, cannot be escaped.

Barlowe[5] suggests attention to the important reciprocal effects between agrarian reform and economic development has, in the past, suffered from "the failure of land reformers to really accept economic development as one of their goals."

No meaningful, sharp separation of economic development from agrarian development or agrarian reform is possible. In practice, the only separation comes simply because the vastness of the problem demands a small area of the whole complex be singled out for concentration if effort is not to be dissipated uselessly. At the same time, a recognition of extreme interrelationships is necessary. Similarly, no time sequence can be meaningfully established. Economic development is at once an essential prerequisite to agrarian reform and agrarian development, and a partial consequence of it. FitzGerald[6] neatly phrases the fruitlessness of the attempt to separate agrarian reform from economic development and to establish a sequence by referring to the "chicken and the egg" type of interrelationship.

Importance of agrarian development to over-all economic development

In considering economic development in underdeveloped areas, it soon becomes evident that agrarian development made possible by agrarian reform offers one of the most promising paths to follow, although not the only one. In most underdeveloped areas, agriculture is the principal form of wealth, and ownership and cultivation rights in land are the prevailing device to govern the distribution of returns. Thus any over-all program aimed at

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5. Raleigh Barlowe, "Land Reform and Economic Development," Journal of Farm Economics, Vol. 35, No. 2 (May, 1953), pp. 173-187.

6. Dennis A. FitzGerald, "Land Reform and Economic Development," Land Economics, Vol. 27, No. 4 (November, 1951), pp. 385-388.

economic development almost of necessity must devote an important part of its effort and its resources to agriculture. To be most effective, agrarian reforms must be continuous; one major reform without continuing, ancillary services and follow-up services may only succeed in starting a cycle that leads to a future need for another major reform. Continuous application of minor adjustments will allow a reform, once begun, to realize its potential and enable the agricultural population to continue to better its levels of living. In turn, this will offer constant stimulus and support to the non-agricultural sector of the economy.

The importance of agrarian reform in stimulating over-all economic development is illustrated by Flores:[7]

> The experience of Mexico, first in agrarian reform and later in an all-around policy of economic development, illustrates the case. During the last four decades, Mexico has experienced the most extraordinary change in its social, political, and economic structure. The student of contemporary Mexico--whether sociologist, economist, artist or political scientist--finds such an overwhelming display of new facts, trends, and institutions in such a rapid process of change as to almost defy analysis. The catalyst which set in motion this process of economic development was land reform.

If for no other reason, agrarian development is vital to over-all economic development because 70 per cent of the population in underdeveloped areas is engaged in agriculture.[8] It is, of course, impossible to conceive of general economic development without including these people within the scope of the program. That alone would involve agrarian reform. In these

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7. Edmundo Flores, "Agrarian Reform and Economic Development," in Conference on World Land Tenure Problems, Proceedings, Part 1 (Madison, Wisconsin, October 8 to November 20, 1951), unpaged.

8. W. S. Woytinsky and E. S. Woytinsky, World Population and Production (New York: The Twentieth Century Fund, 1953), p. 459.

areas the law of tenure may well be considered the basic law of the land. If the tenancy system presents obstacles to economic development, it can hardly be imagined that economic development can proceed very rapidly or very far without agrarian reform. A properly organized agrarian reform can release the energies of this large proportion of the population to engage in agrarian development and thus further economic development.

Increased food supplies as an important gain of over-all economic development

The low levels of productivity in agriculture in underdeveloped countries are widely recognized, and are indicated by the per capita income figures cited earlier. Nutritional levels in underdeveloped nations also are low; in India, for example, the per capita supply of animal protein per day is less than 5 grams, compared to some 60 grams in the United States and over 70 grams in New Zealand. Similar differences exist in calorie intake.[9]

With food consumption at such low levels, agriculture offers an important means to increase the per capita supply of goods, an important component of economic development. An increased food demand would be among the first results of any increase in real per capita income which might result from economic development. Indeed, in most underdeveloped areas, economic development can hardly proceed at all without increased food production.

Fortunately, a wide range of improvements in agricultural productivity

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9. Food and Agriculture Organization of the United Nations, The State of Food and Agriculture, 1954 (Rome: Food and Agriculture Organization of the United Nations, 1954), p. 35.

seems possible without excessive capital investment, at least in relation to such economic development projects as the organization of heavy industry. Substantial progress can be made through technological developments in the form of improved crop varieties, insecticides, available fertilizers, and, perhaps, improved types of hand tools. However, as FitzGerald[10] points out:

> In many instances . . . agrarian reform is necessary for the full development and use of modern science and technology in agriculture. The most pressing needs therefore may be for an improved tenure system, the development of credit facilities, . . . expanded and redirected educational programs, and the enactment of necessary legislation for an organizational setup suitable to carry on land development programs. . . .

Importance of agrarian markets for nonagricultural products

Perhaps in no instance is the interrelationship of agrarian and economic development so obvious as in the interdependence of the agricultural and the industrial sectors of the economy for both markets and resources for production. Obviously in an underdeveloped area, agriculture is potentially the largest market for nonagricultural goods and a large industrial supplier. Similarly, the most important potential source of labor for industry and commerce is agriculture, although the transfer may not be easy to effect and considerable social and economic difficulties are created. Not the least of the economic difficulties, as Hutcheson[11] points out, is the fact that movement of rural labor to urban sectors of the economy "is not likely to result in a release to the urban areas of the food supplies

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10. FitzGerald, op. cit., p. 387.

11. Harold H. Hutcheson, "I. Problems of Underdeveloped Countries," Foreign Policy Reports, Vol. 24, No. 9 (September 15, 1948), pp. 98-106.

which [the new laborers] previously consumed on the farms." Instead, food consumption of the rural population may be expected to increase. Thus, again, the importance of agrarian development--which often can come only after an agrarian reform--and its interrelationships with economic development is demonstrated.

Importance of capital investment in land in underdeveloped countries

In most underdeveloped areas of the world land represents the most important form of capital and is the most attractive field of investment. Around every major city in the Far East is a belt of the most accessible land which is held by urban landlords as an investment; in this area 80 to 90 per cent of the cultivators are tenants with no direct interest in their lands.[12]

In an agrarian reform involving a redistribution of ownership rights in the land, the capital represented by land, and the entrepreneural abilities of the capital owners, can to some measure be redirected to nonagricultural economic development by carefully planned compensation schemes. One such proposal by Johnson and Metcalf[13] suggested land redistributed from large landowners to cultivators be paid for in the form of government bonds. These bonds, in turn, could be "negotiated for industrial development loans to finance approved investment projects."

In many underdeveloped nations, even though land represents the most

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12. Choh-Ming Li, "Economic Problems of the Peasant in the Far East," World Affairs Interpreter, Vol. 22, No. 4 (January, 1952), pp. 431-439.

13. V. Webster Johnson and John E. Metcalf, "Land Redistribution and Industrial Development," Land Economics, Vol. 29, No. 2 (May, 1953), pp. 155-160.

important field for investment, agricultural investment may still be far from the optimum allocation which a marginal returns analysis would prescribe. In such instances, redistribution of ownership rights might offer a chance to rechannel much of the capital and the management talent represented by absentee ownership. It might also provide a direct incentive to cultivators to increase their investment in their land, resulting in agrarian development and thus contributing to economic development. The United Nations Department of Economic Affairs asserts:[14]

> Reform of the institutions of land tenure should serve to promote more investment in the land, by the provision of wider opportunities of ownership, and of security to tenants, and is thus the first condition for advance in agriculture.

Redistributive effects of agrarian reform

Economic development includes a more equitable distribution of income along the lines indicated by the subsistence and the factor rewards conditions. It may be noted agrarian reform necessarily involves important elements of income redistribution. The usual agrarian reform program involves a redistribution arising from one of two adjustments in the tenure structure: (1) a redistribution of land, either to individuals or to groups of individuals acting collectively, or (2) a reduction of rentals.[15] There may also be a change in the distribution of economic power as a result of tenant security regulations, credit programs, and other measures, which may affect income distribution.

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14. United Nations Department of Economic Affairs, Progress in Land Reform (New York: United Nations Department of Economic Affairs, 1954 [United Nations Publication Sales Number 1954.II.B.3]), p. 302.

15. Jacoby, op. cit., p. 56.

Heady[16] suggests that where a society is making an effort to redistribute income and wealth through the operation of an agrarian reform, information is needed on the economies or diseconomies to scale in farming in order for citizens to vote intelligently. With this information, it is then possible to weigh the gains in welfare from the redistribution with the losses in welfare resulting from a smaller total economic product. The society can then determine if it would, in fact, prefer to redistribute income by, say, promoting owner-occupiership, or if it would prefer other means such as progressive taxation, extension of public health and home services, etc., while allowing the agricultural firm to approach the most efficient size. This may not be such an important consideration in a society where promotion of owner-occupiership may not effect a change in the pattern of cultivation, as would be the case in redistributing small peasant holdings to tenants. But for a plantation economy, this is a difficult and important problem.

Importance of over-all economic development to agrarian development

That general economic development makes a substantial contribution to agrarian development is quite widely recognized. In the modern world, those nations which are the most advanced in industrial development are generally also most advanced agriculturally. This is more than a result arising from the opportunity for underemployed rural labor to migrate to urban employment. It also reflects the availability of industrial supplies which increase agricultural productivity and the presence of a market for

16. Earl O. Heady, "Fundamentals of Resource Ownership Policy," Land Economics, Vol. 29, No. 1 (February, 1953), pp. 44-56.

agricultural products. Drucker,[17] proposing a program for economic development in agrarian nations, points out that agrarian development is not only furthered by general economic development, but is impossible without it. "In short," he concludes, "industrialization is the only answer." Li[18] insists it is "axiomatic" that agrarian development and a "real improvement of the peasant's position can only be brought about by a national program of economic development."

Perhaps the most important means by which general economic development contributes to agrarian development is through the provision of alternative opportunities in the nonagricultural sector of the economy for underemployed agricultural labor. This increases not only the productivity of that labor which shifts, but also the productivity of those workers who remain in agriculture. The extent of underemployment is difficult to assess. Statistical figures purporting to indicate the numbers of individuals in agriculture are not strictly comparable between nations because of differences in organization for production and in the definitions of "agricultural population." Bauer and Yamey[19] warn that "clear-cut occupational classifications are inappropriate in underdeveloped countries where specialization is inadequate." As a result, they suggest "caution" in using national income and employment statistics as "indices of economic welfare

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17. Peter F. Drucker, "Frontier for This Century," Harper's Magazine, Vol. 204, No. 1222 (March, 1952), pp. 68-74.

18. Li, op. cit., p. 439.

19. P. T. Bauer and B. S. Yamey, "Economic Progress and Occupational Distribution," Economic Journal, Vol. 61, No. 22 (December, 1951), pp. 741-755.

or as the basis of extrapolation." Nevertheless, Drucker[20] asserts:

> It is no exaggeration to say that food production in practically all [the crowded underdeveloped nations] would double if the number of people on the land were halved.

Li[21] suggests that in the densely settled countries of south and southeast Asia, "something like at least one-third of the present agricultural population may be taken away from the farm without affecting the present total agricultural production."

One aspect of the transfer of underemployed agrarian labor to the urban sector of the economy is met in agrarian reforms which attempt to remedy the problem of individual holdings which are too small to provide even a subsistence living to the cultivator. The United Nations Department of Economic Affairs[22] notes the importance of general economic development in promoting agrarian development and its importance to the success of agrarian reforms. "Above all," it concludes, "is this true of the promotion of farms of economic size." Its report proceeds to summarize points in the replies of the governments of Haiti, India, and Pakistan, each of which emphasizes the limited success of programs to encourage economic holdings in the absence of alternative avenues of employment. The problem of underemployment of agricultural labor--often referred to as "agricultural overpopulation"--is generally agreed to be susceptible of solution only by general economic development. Jacoby[23] points out:

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20. Drucker, op. cit., p. 69.

21. Li, op. cit., p. 438.

22. United Nations Department of Economic Affairs, op. cit., p. 301.

23. Jacoby, op. cit., p. 34.

> No agrarian reform . . . can remedy a situation due to the fact that too many cultivators are trying to get a living from too little land. In such cases the most that reform measures may achieve will be a temporary amelioration but never a satisfactory solution. . . .

Certain reform measures aimed at agrarian development through improved land use practices also cannot be expected to succeed without general economic development. Reclamation programs and settlement measures may require substantial economic development in the nonagricultural sector to succeed.

Industrial goods of various sorts--fertilizer, machinery, etc.--are necessary for continued agrarian development. Obviously, these are produced outside of agriculture, and agriculture must rely upon development of nonagricultural industries for its supply. It may be pointed out that the industry which supplies these factors of agricultural production need not at first be extremely complicated nor heavy industry in order to supply some of the goods which may have the most substantial effects on agrarian productivity. Indeed, Jacoby[24] suggests:

> To begin with, production should be concentrated on less complicated machinery, e.g., new and better designs of traditional hand and animal tools which will be accepted more readily by the conservative farmer and can also be more easily made.

Commercial development, too, promotes agrarian development. Food and Agriculture Organization experts,[25] for example, suggest:

> For rapid agricultural improvement, a nation will do well to encourage the growth of business organizations that help farmers to obtain improved means of production.

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24. Ibid., p. 50.

25. A. B. Lewis, Ralph W. Phillips and J. Lossing Buck, Essential Steps in National Agricultural Improvement (Washington: Food and Agriculture Organization of the United Nations, 1950), p. 14.

The concept of agrarian development includes increasing amounts of commodities becoming available to the agricultural population by which levels of living may be raised. Many such commodities come, of course, from outside agriculture, whether through international trade or domestic trade. Such contributions to the level of living which come from the non-agricultural sector of the economy in the form of intangible services must, of course, be produced relatively close to the place of consumption, and must, therefore, be made available through general economic development.

The development of processing industries for agricultural products will promote agricultural development through providing for more orderly marketing. General economic development will, through better transportation, storage, standardization, etc., help to reduce the often unduly high marketing margins for agricultural products in underdeveloped economies. Finally, of course, the expansion of the general economy will provide increasing markets for the products of agriculture.

From the foregoing discussions the necessity for a co-ordinated program of economic and agrarian development emerges clearly. Without careful co-ordination measures of agrarian reform cannot be expected to have their full effect in their intended purpose of promoting economic development. Indeed, they may even work at cross purposes with economic development if too much stress is laid upon the distributive goal or on some political objective. A program to promote owner-occupiership, for example, while achieving a political aim and perhaps assuring factor rewards in accordance to contribution and even a subsistence minimum of living, might establish a tenure structure which would block increased labor efficiency, reduce total output, and prevent economic development.

INSTITUTIONAL IMPEDIMENTS TO ECONOMIC AND AGRARIAN DEVELOPMENT AND REMEDIAL ALTERNATIVES

Impediments to economic development in the form of defects in agrarian structures which engender resource inefficiencies are widespread in occurrence and of great importance in many parts of the world. Analyzing replies of member governments on measures of agrarian reform in more than 60 countries and territories, the United Nations Department of Economic Affairs[1] concluded in 1954 that "major reforms" of various sorts are needed in almost every area of the Free World except the temperate regions of North America and northern Europe. (The Soviet Union did not reply to the questionnaire.) Approximately 1.8 billions of people live in these areas where agrarian structures are blocking economic development.

The necessary conditions for economic development proposed earlier in this study provide a framework for analyzing these impediments to economic development. In some instances, a single defect in agrarian structure such as insecurity of tenant expectations may cause resource inefficiencies which prevent progress toward fulfillment of two or more of the necessary conditions for economic development, such as increased labor efficiency and factor rewards in accordance with contribution. The nature of possible remedial alternatives may be determined by examination of the problematic

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1. United Nations Department of Economic Affairs, Progress in Land Reform (New York: United Nations Department of Economic Affairs, 1954 [United Nations Sales No. 1954.II.B.3]), p. 48.

gap between the present and the desired situations to determine both failure elements and success elements. Some of the actual or potential success elements (in both the ex post and ex ante senses) which suggest remedial alternatives have been incorporated into programs of agrarian reform initiated by various nations of which many examples are cited.

The modern world is characterized by change. Under the impact of changing economic, political, and even value systems, as a result of increased international exchange of ideas and the introduction of physical and political innovations, agrarian structures in underdeveloped areas must of necessity change, too. An agrarian system which is no longer in accord with the contemporary state of economic and political development introduces impediments to further development and "will inevitably contribute to instability, insecurity, and uncertainty."[2]

The urgency of agrarian reform has been strikingly emphasized in recent years, and especially since World War II. Nationalist movements in Asia and Africa have resulted in increasing awareness of the needs of peasant cultivators. At the same time, these movements have made the peasant cultivators more articulate in pressing for improved agrarian conditions associated with the necessary conditions for economic development. Although Western economic and political penetration is not the only cause of dissatisfactions with existing conditions, Western influence has emphasized agrarian problems and Western technical and political innovations have intensified them. Contact with the West has raised the norms of material

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2. Erich H. Jacoby, Inter-Relationship between Agrarian Reform and Agricultural Development (Rome: Food and Agriculture Organization of the United Nations, 1953), p. 6.

levels of living as knowledge about conditions in other nations has spread. The influence of the demonstration effect has been profound. Western political influences have given new impetus to local value systems regarding the importance and role of the individual and his place in furthering improvements in a free society.

The means-ends continuum shows economic considerations in isolation cannot give a meaningful understanding of agrarian problems. Although this study is most directly concerned with the economic aspects of agrarian problems and with the economic effects of structural weaknesses in agrarian society, it must be recognized that much of the urgency of agrarian reform, and much of the pressure for it, comes from other than economic motivations. Not only economic ends, but also the increase in human dignity and the realization of noneconomic goals of personal accomplishment are important in value systems. However, one requires the other to a large extent. An agrarian reform measure aimed at overcoming the resource inefficiencies engendered by an agrarian structure which does not lead to social improvement and the increase in human dignity will have only qualified success.

That there is dissatisfaction with existing agrarian structures is only too evident in many underdeveloped areas of the world. To the citizens of these underdeveloped countries, Soviet Communism holds out one alternative group of agrarian adjustments. These adjustments--principally collective farming and state ownership of resources--are proposed as a solution for a feudal agrarian system no longer in accord with the political and economic realities of the 20th century. But the adjustments must be carried out at the forbidding price of totalitarian rule and loss of individual freedom and human dignity. Furthermore, such adjustments have

not resulted in the promised advances in material welfare for agrarian populations in areas under Soviet domination. Available evidence indicates that within Russia itself, the per capita output of edible animal products has declined about 30 per cent in the last 25 years. Grain output is about the same per capita as it was in 1928.[3] Such a situation contributed to the fall of Georgi Malenkov as Soviet premier in February, 1955. In his resignation statement he admitted, "I see particularly clearly my guilt and responsibility for the unsatisfactory state of affairs which has arisen in agriculture."[4]

An alternative group of adjustments is proposed by those who stand in the world-wide tradition of democratic-humanitarian social structure. These adjustments, properly refined and applied to local situations, enable a fuller realization of economic and political ends-in-view without the sacrifice of human freedom and dignity. It is only these adjustments which are of concern in the present study. Adjustments accomplished by totalitarian rule and the loss of individual human dignity are a repudiation of basic human ends and consequently have no place in agrarian reform programs.

Resource Inefficiencies Engendered by Defects in Agrarian Structures

The necessary conditions for economic development, as outlined earlier, include increased efficiency of labor and related adjustments, and

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3. Chauncy D. Harris, "Growing Food by Decree in Soviet Russia," Foreign Affairs, Vol. 33, No. 2 (January, 1955), pp. 268-281.

4. "Famous Last Words . . . Communist Style," U.S. News & World Report, February 18, 1955, pp. 20-21.

improving the distribution of wealth within an economy, both from the aspect of the subsistence norm and from the aspect of a factor reward condition which necessitates correcting dissociations between contributions and returns in economic activities.

From the standpoint of economic concern, therefore, agrarian reform becomes a problem of reorienting resource use within agriculture to increase labor efficiency and to change the distribution of income so that it more nearly accords with the subsistence norm and with the factor rewards condition.

Within this framework of reorienting agricultural resource use to promote agrarian and economic development, one meaningful way to view defects in agrarian structures which are obstacles to development is to classify and state them in terms of resource inefficiencies. The following discussions of institutional impediments to agrarian development, therefore, center around 11 classifications of resource inefficiencies caused by various kinds of defects in agrarian structures. Because the statement of the cause of resource inefficiency--a form of diagnostic hypothesis--in itself often suggests measures by which to overcome the inefficiency--the remedial hypothesis--the detailed discussion of the problems is taken up in the same section as are the remedial alternatives which emerge from an examination of the problem or which have been undertaken in some nation.

In this study the 11 kinds of resource inefficiencies engendered by institutional structures which have been selected for more critical examination are as follows:

1. Resource inefficiencies engendered by uncertainty arising

from conditions of tenure. These resource inefficiencies arise when institutional forms shorten the economic horizon and cause attendant misallocations of resources. In this study the principal kind of resource inefficiency and remedial measures discussed deal with those resource misallocations which arise when the institutional forms of tenancy do not allow tenant operation at the economically most desirable level.

2. Resource inefficiencies engendered by high fixed costs to the operator. In some underdeveloped areas the rents charged by landlords for the use of land and other resources are higher than the actual contributions of the resources to the output of the farm. This is possible because of the position of economic power of the landlords. Adjustments in economic and social institutions can be made which will prevent these rentals from growing to such proportions, which in turn will cause a more nearly optimum allocation of resources and enable the cultivator to increase the efficiency of labor and perhaps total product. It will be seen this also accords with the necessary condition relating to factor rewards.

3. Resource inefficiencies engendered by noncontiguous tracts. Certain types of resource misallocations leading to labor inefficiencies and lower total product arise from the widespread existence of holdings which are fragmented into a number of different parcels.

4. Resource inefficiencies engendered by undersized holdings. In

many areas of the world holdings--even average holdings--are so small as to provide levels for the cultivator below the subsistence norm set by the society, even though that norm be barely above the minimum physical subsistence level itself. These small holdings give rise to resource inefficiencies affecting labor and total product. This type of resource inefficiency offers one of the most intractable kinds of resource inefficiency engendered by defects in agrarian structures and one of the least amenable to solution through adjustments within the agrarian sector of the society alone.

5. Resource inefficiencies engendered by lower uses of land arising from the pattern of ownership. In many parts of Latin America, especially, large tracts of land--latifundia--are farmed extensively while other areas, often of poorer physical capacity, are farmed intensively. This is a form of resource inefficiency which reduces the total product of the nation and has important depressing effects on labor efficiency.

6. Resource inefficiencies engendered by lack of secure title to land and water rights. The lack of secure title to water and to land causes alterations in the pattern of resource allocations which fail to achieve the optimum labor productivity or total output. These resource inefficiencies often can be overcome relatively easily by means of suitable adjustments in social and economic institutions.

7. Resource inefficiencies engendered by high fixed cost of operating capital. In many underdeveloped areas cultivators are

prevented from reaching the optimum enterprise combination and resource allocation on their holdings by high fixed costs of operating capital. In many instances suitable adjustments in economic and social institutions will enable the operator to overcome these resource inefficiencies and to increase the efficiency of his labor and the total product of the farm firm. In certain instances increased dissemination of information is an integral part of the adjustments necessary to achieve these results.

8. Resource inefficiencies engendered by high fixed costs to the owner. Two forms of high fixed costs which fall on the owner (though they may be passed on to the tenant under certain conditions) cause resource inefficiencies: (1) high interest rates on long term capital, and (2) high taxes. Institutional adjustments can enable an underdeveloped nation to overcome both of these causes of inefficiency to a certain extent.

9. Resource inefficiencies engendered by lack of legal machinery. In areas where cultivators cannot obtain or cannot afford legal redress for inequities in the application of laws or in the settlement of disputes between individuals there may be resource inefficiencies. This is a clear-cut instance where a suitable adjustment of a social institution can help overcome a form of resource inefficiency.

10. Resource inefficiencies engendered by lack of knowledge. Many of the failures to adjust to the optimum position of

output to maximize economic goals in underdeveloped nations arise out of a lack of knowledge. This may occur either on the level of applied knowledge on individual holdings, or at the level of research knowledge. A failure to apply knowledge on individual holdings may give rise to resource inefficiencies. Equally, a lack of knowledge anywhere in the society about physical or social factors affecting output may be the cause of resource inefficiencies. Suitable adjustments in social institutions and more widespread dissemination of information can help overcome these resource inefficiencies.

11. Resource inefficiencies engendered by occupational immobility. A lack of suitable alternatives or a lack of knowledge about alternatives may lead to an excess of labor in agriculture. This, in turn, leads to reduced labor efficiency and to a misallocation of resources within the society. To overcome this sort of resource inefficiency requires suitable adjustments in the economic and social institutions in both the agrarian and nonagrarian sectors of the economy, and more widespread dissemination of information.

The discussion and analysis of these various general kinds of resource inefficiencies and the means to overcome them is set within the framework of the necessary conditions for economic development and the means-ends continuum in the following discussion.

Remedial Alternatives to Overcome Defects in Agrarian Structures

In this discussion, remedial alternatives are suggested by which to overcome the various kinds of resource inefficiencies outlined above. Since delimiting the defects and a diagnosis of their effects often points up success elements and suggests possible remedies, the discussion of the problem and its extent in various underdeveloped countries is undertaken in close proximity to the discussion of the various remedial alternatives. In general, therefore, the discussion to follow normally proceeds along the following lines:

1. An analysis of a class of resource inefficiencies engendered by various defects in agrarian structures and their effects in terms of the necessary conditions for economic development (delimiting the defects).
2. A discussion of the present situation with regard to the presence and extent of the defects in various underdeveloped areas (diagnosing the defects).
3. A discussion of suitable remedial alternatives as indicated by the theoretical analysis in terms of the necessary conditions for economic development and in view of success elements in various nations (remedying the defects).

Lessening uncertainty arising from conditions of tenure

One of the most important forms of resource inefficiency in underdeveloped countries arises when cultivators do not have a secure expectation they will receive the future benefits arising from present efforts. Often this occurs when the tenure pattern is characterized by tenancy. Uncertainty

is perhaps one of the most evident and widely considered of the problems giving rise to a demand for agrarian reform.

Tenure uncertainty within the framework of the necessary conditions for economic development. Within the framework provided by the necessary conditions for economic development the effects of uncertainty and possible remedial alternatives may be delimited.

Uncertainty may be thought of as referring to events in the future for which the parameters of probability cannot be determined. The term "can be used in a very broad sense to include all circumstances in which decisions must be made without perfect knowledge of significant future events."[5]

When tenure conditions such as a short-term lease are responsible for these circumstances the individual cultivator's economic horizon will be shortened. Fearing he will not realize future benefits, he will lack the economic incentive to allocate his resources in the optimum pattern for his firm, reducing the efficiency of his labor, and violating one of the necessary conditions for economic development. In instances where landlords have relatively great economic power, as is the case in areas of heavy population pressure, they may be able to extract more return from the product of the firm than their contribution would justify, violating the factor rewards condition. Because of uncertainty, cultivators may be forced to allocate their capital resources in such a manner as not to realize the greatest effectiveness of their resources which might occur when cultivators fail to use fertilizers or fail to plant perennial crops. They

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5. Earl O. Heady, Economics of Agricultural Production and Resource Use (New York: Prentice-Hall, Inc., 1952), p. 443.

may not be able to secure as much capital as they could economically use if they had more certainty of expectations. A promising avenue for reducing uncertainties is through adjustments in economic institutions where those institutions, such as tenancy agreements, may be the cause of uncertainty. Adjustments in social institutions may enable the society to increase the certainty of expectation for individual cultivators by such means as establishing minimum leasing periods or requiring compensation. Other forms of uncertainty, particularly those relating to the effects of new crops and techniques of management, may be reduced by more widespread knowledge of suitable adjustments in economic and social institutions.

The effects of uncertainty upon resource use in underdeveloped areas generally arise from the pattern of resource use the individual cultivator adopts in order to assure a certain minimum income and standard of living, even though perfect information would allow a use of resources which would increase the efficiency of production and thus income. From the standpoint of economic analysis, farmers may attempt to minimize the probability that income will not fall below some critical level and that some level of liquidity be maintained which will allow a cultivator to transfer his equity should the necessity arise.[6]

Uncertainties arising out of tenure may be separated into three general sorts. The first is the limiting of the economic horizon which arises when tenure is insecure as is the case when the length of lease is short. Cultivators who rent their land under short-term agreements must adjust their pattern of production to enable them to maintain a maximum ability

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6. Ibid., p. 500 ff.

to move their resources should their tenancy contract be ended. This insecurity of tenure is of great importance in most underdeveloped countries and is not without important implications even in such an advanced nation as the United States. When economic horizons are limited, long-term investments, whether in production equipment, cropping practices, or soil building measures, are sharply curtailed.

Even should farmers be willing to increase their long-term investments under conditions of uncertain tenure, they would be limited in their action by a second effect of uncertainty arising out of tenure, the limitation of capital funds which they may borrow. Schultz[7] asserts that the "tap root" of capital rationing practices is "grounded chiefly in economic uncertainty." Local sources of credit may be unwilling to loan money for long-term investments to farmers with short-term leases.

A third effect of uncertainty arises in the very lack of incentive even to attempt long-term planning when the cultivator is faced with short economic horizons as a result of the conditions of tenure.

Three general routes may be followed in adopting patterns of remedial alternatives to overcome resource inefficiencies engendered by uncertainty:

1. Increased security of tenant expectations. In this route, no change in the form of ownership is contemplated, but rather adjustments to reduce uncertainty are made in the economic and social institutions which define the obligations of tenants and landlords and extend economic horizons.

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7. Theodore W. Schultz, Production and Welfare of Agriculture (New York: The Macmillan Company, 1949), p. 133.

2. Promotion of owner-occupiership. In this route uncertainty of expectations is reduced by transferring ownership of land to the cultivator. When he owns his own land, uncertainties due to the form of tenure are greatly reduced and the owner generally has a greatly lengthened economic horizon.
3. Promotion of group ownership. Certain kinds of reductions of uncertainty are better accomplished when a group has rights of tenure than when they are invested in an individual.

Increased security of tenant expectations. Appropriate adjustments in economic and social institutions can overcome most of the uncertainties of expectation which are sometimes present in a land tenure system characterized by tenancy. (Tenancy, as used in this study, refers to that form of tenure where the operator rents certain resources, particularly land.)

The economic function of the tenancy agreement is to provide a basis for combining resources in production and to distribute the income of the farm firm to the resource owners.[8] This does not, of course, conflict with the necessary conditions for economic development. In fact, adjustments in the conditions of tenancy to more nearly fulfill the necessary conditions of increased efficiency of labor and of factor rewards in accordance with the contribution offer an outstanding example of increased efficiency through adjustments of economic and social institutions.

Economic framework for tenant expectation analysis. Conditions

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8. Virgil L. Hurlburt, Farm Rental Practices and Problems in the Midwest (Ames: Iowa Agricultural Experiment Station, 1954 [Research Bulletin 416]), p. 85.

for the economically optimum allocation of resources on a farm are stated by the theory of the firm, the literature of which is plentiful. These provide criteria for the allocation of resources, costs, and returns within the firm. When fulfilled, they eliminate uncertainty due to tenancy. It may be observed, therefore, that this framework supplements the necessary conditions for economic development; it does not replace them.

One of the best and most authoritative statements of the theory of the firm is that of Hicks[9] who establishes the conditions of equilibrium of the firm from which any deviation represents a less-than-most-efficient allocation of resources. These conditions have been quoted earlier. From the standpoint of an economic analysis of the conditions of tenancy, two of these conditions become the only ones of practical relevance: the condition that the marginal rate of substitution between two products equals their price ratio and the condition that the marginal rate of substitution between any two factors must equal their price ratio. Movement to fulfill these conditions of optimum must at the same time result in movement toward fulfilling the necessary conditions for economic development.

Using Hicks' equilibrium conditions as applied by Heady,[10] Hurlburt[11] has established four conditions "necessary within the leasing arrangement to encourage operation at the maximum profit from the combined resources of landlord and tenant." These four conditions are:

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9. J. R. Hicks, Value and Capital (2d ed.; Oxford: The Clarendon Press, 1946), p. 86.

10. See Heady, op. cit., p. 167 ff.

11. Hurlburt, op. cit., p. 86 ff.

1. "The share of the factor of variable input must be the same as the share of output of product obtained from it." This condition is wholly fulfilled by a cash lease "because the tenant furnishes all the variables and receives the returns from them." When some sort of share rental agreement exists--a common form of tenancy agreement in underdeveloped areas--"the requirement that the share of variable cost be the same as the share of the return means that all variable costs must be shared"--a very uncommon form of tenancy agreement in underdeveloped areas.

2. "Equal shares of all products." Again, cash leases automatically fulfill this incentive condition "because the cash rental is a fixed cost for all products" and may be considered as charged in proportion to its return. In the case of a share rental, if different shares are taken of different crops, the tenant has economic incentive to move toward that crop from which he received the higher share and away from the quantities of the two products that result in the highest profit for the combined resources of the landlord and tenant. He thus allocates resources inefficiently. Hurlburt points out it is not necessary this condition be met if a decision is made to operate at the highest profit combination for the combined resources, but in this instance there will be an arbitrary income transfer from one party to the other. This would occur, for instance, in an underdeveloped country where the landlord had a superior bargaining

power as a result of heavy population pressure on the land.

3. Each resource owner must receive the marginal value product of the resources he contributes. This, it will be seen, is one of the necessary conditions for economic development. The condition applies to the fixed as well as to the variable resources of both the landlord and the tenant.

> If the resource owner does not have opportunity to receive the full share of return from the resource contributed, he has incentive to move away from the highest profit combination. If, through joint decisions, the firm is operated at the highest profit combination and one or the other party receives less than his full share of the product earned, there is an income transfer.

As a theoretical framework, this condition is clear, but in practice it becomes very difficult to identify marginal value products. Nevertheless, it seems hardly questionable that in many cases in underdeveloped areas, rental rates, for example, exceed the marginal value product of the land.

To meet this condition fully, the landlord would have to receive direct and specific payments for such items as barns, sheds, and fences and a separate payment for any living facilities provided.

4. "Each resource owner must have opportunity to receive return on investment made in one production period but not forthcoming until a subsequent period." To meet this condition some form of adequate compensation procedure should be established in the lease. It should be noted that this

condition includes not only compensation to a tenant for unexhausted improvements, but also compensation to the landlord for dilapidations.

If these incentive conditions can be approximated in an agrarian structure, then the only advantages of ownership over tenancy may be noneconomic. This, of course, does not imply the advantages would be important. But it does mean resource inefficiencies engendered by uncertainties arising from the conditions of tenure may be wholly corrected within an agrarian structure characterized by tenancy. Since this theoretical structure demonstrates how it is possible to achieve an optimum resource allocation under tenancy, it becomes worth while to investigate institutional adjustments to facilitate movement toward fulfilling the incentive conditions. Such adjustment also moves toward greater fulfillment of the necessary conditions for economic development.

Present situation in underdeveloped countries with respect to security of tenancy. A brief review of the situation in underdeveloped areas of the world amply demonstrates existing conditions of tenancy fall far short of meeting Hurlburt's four incentive criteria.

One of the most important resource inefficiencies engendered by uncertainty arising from conditions of tenure is related to the short economic horizon common to tenancy in underdeveloped areas. These uncertainties would arise from a failure to fulfill Hurlburt's fourth condition, the opportunity to receive return on investment. They will result in a failure of a resource to receive a reward in accordance with its contribution. The existence of unequal shares and the failure to relate shares received to the variable contribution of resources is also widespread, violating

Hurlburt's first condition that costs and returns be shared in the same proportion and his second condition that all products be shared equally.

Throughout the underdeveloped areas security of tenancy is low. In southern Europe the United Nations Department of Economic Affairs[12] indicated "the degree of security enjoyed by tenants--and by share-croppers in particular--appears to be low." In the Middle East, where agriculture is characterized by a system of tenure where land is owned and let to share tenants in small parcels, the tenants most generally hold their land under the vague provisions of custom without written contracts. "Tenants on the whole enjoy little security; consequently they do not invest much in their holdings."[13] Hoover,[14] writing from Jordan mentions "the lease lasts for one year." He continues that he knows "of no division of responsibility for making improvements." He does indicate that certain variables--particularly seed--are shared in proportion to output in some instances; an expansion of this practice might offer a means to improve resource allocation. In Egypt the "year-to-year lease is the most common."[15] In Asia short economic horizons and weak bargaining power on the part of the tenant are ubiquitous causes of resource inefficiencies.[16] In parts of Asia and

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12. United Nations Department of Economic Affairs, op. cit., p. 49.

13. Ibid., p. 133.

14. Dale Hoover, Information on tenancy in Jordan (Amman, Jordan, 1955 [Private communication]).

15. Mohamed Abdel Wahab Ezzat, "The Land Tenure System in Egypt," in Conference on World Land Tenure Problems, Proceedings, Part 1 (Madison, Wisconsin, October 8 to November 20, 1951), unpaged.

16. United Nations Department of Economic Affairs, op. cit., p. 126 ff.

commonly in South America landless workers are encouraged to settle on private land either as a result of an initially tolerant attitude of the owner or through vague promises. These workers "often work for years to clear the land, but after the first crops they are frequently faced with the risk of ejection."[17] Furthermore, in underdeveloped areas in general, with the exception of important laws in India, Pakistan, Formosa and Egypt, "little progress is discernible."[18] (In Japan there has been a great improvement in the last decade as a result of the far-reaching agrarian reform program.)

Remedial alternatives. A number of suitable remedial alternatives may be proposed which will increase the security of tenant expectations.

Regularization of tenancy agreement through written leases. One of the most elemental remedial measures is the regularization of the tenancy agreement. In practice this has taken the form of requiring a written contract of tenure and setting some minimum standards for conditions of tenure which may not be violated by contract agreement or which become operative in the event the written lease agreement does not make an adequate provision. A written lease which meets the criteria for tenancy analysis will assure the cultivator a reward in accordance with his contribution.

"Oral leases should be unanimously ruled out, and insistence made upon a written lease with specific provisions as one important step" in

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17. Jacoby, op. cit., p. 36.

18. United Nations Department of Economic Affairs, op. cit., p. 148.

correcting resource inefficiencies, Renne[19] insists.

Throughout most of the underdeveloped countries of the world tenancy agreements are established on the basis of custom. In these instances, there is often no legal agreement to define the obligations of the tenancy of the landlord, no an adequate degree of security to assure efficient resource use.[20]

In many advanced nations, tenancy agreements must be written and meet certain minimum requirements. This is the case, for instance, in the Netherlands[21] and Sweden.[22] In Japan, as a result of the recent agrarian reform measures, all tenancy contracts must be written.[23]

Cash or fixed amount of produce rental payments. In most underdeveloped areas some sort of share rental agreement is common. As cited earlier, a common arrangement is for the landlord to take some fixed proportion of the yield, often half even where the landlord contributes only the land and none of the variable costs.

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19. R. R. Renne, "The Flexibility of Land Tenure, Capital, and Credit Systems to Meet Technical, Economic and Social Developments," in Sixth International Conference of Agricultural Economists, Proceedings (London: Oxford University Press, 1948), p. 55.

20. United Nations Department of Economic Affairs, Land Reform, Defects in Agrarian Structure as Obstacles to Economic Development (New York: United Nations Department of Economic Affairs, 1951 [United Nations Publications Sales No. 1951.II.B.3]), p. 17.

21. Cornelis D. Scheer, "An Appraisal of the Place of Equitable Tenancy Arrangements in a Progressive Agriculture (The Netherlands)," in Conference on World Land Tenure Problems, Proceedings, Part 2 (Madison, Wisconsin, October 8 to November 20, 1951), unpaged.

22. United Nations Department of Economic Affairs, Progress in Land Reform, p. 119.

23. Laurence I. Hewes, Jr., Japanese Land Reform Program (Tokyo: General Headquarters, Supreme Commander for the Allied Powers, Natural Resources Section, 1950), p. 74.

Hurlburt's first and second incentive conditions[24] are satisfied, however, when some form of cash rental is paid, since the rent may then be considered as a fixed cost of the same proportion for every product. This suggests a cash rental as a remedial alternative. Under a cash rental agreement, the tenant has a high degree of freedom in planning his farming program. Cash renting also tends to lead to less soil exploitation than crop-share renting because livestock enterprises may be more intensively developed, although in many underdeveloped areas where there is high population pressure, livestock enterprises are small in extent. Under a cash rental system, the tenant has the highest expectation of any form of tenancy to benefit from any improvement in cultivation methods, or in land as far as his tenancy is secure. Jacoby[25] cites the example of rice culture in Ceylon where weeding of the standing rice will increase yields by 20 to 25 per cent:

> . . . it would be worth while for the tenant to make an additional effort if he were to get the full benefit, but the improvement is unprofitable within the framework of the common share rent agreement.

Cash rentals are required in the progressive agriculture of Sweden[26] and under the recent agrarian reform in Japan.[27] Liversage[28] relates the

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24. Hurlburt, op. cit., p. 86.

25. Jacoby, op. cit., p. 36.

26. United Nations Department of Economic Affairs, Progress in Land Reform, p. 119.

27. Ibid., p. 130.

28. V. Liversage, Land Tenure in the Colonies (Cambridge: Cambridge University Press, 1945), p. 39.

interesting experience of the Colonial Sugar Company in Fiji which formerly worked its estates with indentured Indian laborers. In an effort to decentralize the management of its estates, the company at first tried a share tenancy system, but in the face of "practical difficulties" found its operation would be more profitable under the cash rent system and so changed the conditions of tenancy. ✓

It may be noted that the payment of fixed rentals passes the whole uncertainty arising from technical considerations on to the tenant.

Although the advantages of cash rental are generally agreed upon, it is, nonetheless, desirable in view of the long-established practice of share rental in underdeveloped nations and in view of the inadequate marketing facilities which exist in these areas to consider means by which a share rent may be modified to improve resource utilization. One adjustment would be to establish some fixed amount of produce as the landlord's share. This arrangement might not share risk and uncertainty attached to crop yields, yet it would secure to the tenant a return for added variables he contributed to the production process. This fixed amount of produce might be based on average yields over the past 5 or 10 years. An arrangement in the rent control program on Formosa establishes the landlord's share as 37.5 per cent, but calculates the rent with reference not to the actual output of the holding, but to the standard output for the same grade of land in that area.[29]

Sharing of variable costs in accordance with share rental received. In Cuba, another adjustment of share rentals is seen in

29. Lih-Wu Han, Taiwan Today (Taipeh, Taiwan: Hwa Kuo Publishing Co., 1951), 157 pp.

compulsory tenancy agreements of certain types--principally those for the cultivation of sugar cane, coffee, cocoa, rice, and pineapples--which require the landlord to contribute to variable costs. This assures tenants a return more in accordance with their contribution, satisfying Hurlburt's[30] first incentive condition and the necessary condition for economic development relating to factor rewards. The government of Cuba[31] reported that the landlord must provide:

> . . . the share tenant with housing, implements, machinery and draught animals, his share of seed, fertilizers, cattle cake or fodder, houses, buildings or installations for the working of the holding and water. The landlord is also required to provide the share tenant with means of transport for the crop and sums for the payment of wages and any expense incurred in harvesting the produce of the farm.

The division of the crop is determined by the terms of the share tenancy agreement, but:[32]

> In the case of tobacco growing, the landlord receives 25 per cent of the crop but is required to pay for the same proportion of fertilizers, seeds, irrigation and other expenses, excluding the cost of labour, until the harvest is gathered, unless otherwise provided in the agreement.

Compensation for unexhausted improvements and dilapidations. Provision for adequate compensation for unexhausted improvements if the tenant is forced to leave his holding is perhaps one of the fundamental requisites for removing the resource inefficiencies engendered by uncertainty due to conditions of tenancy. With a compensation for improvement

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30. Hurlburt, op. cit., p. 86.

31. United Nations Department of Economic Affairs, Progress in Land Reform, p. 137.

32. Ibid.

assured, the economic horizon of the tenant is greatly extended. Under the more advanced agricultural systems, some provision for compensation is almost universal, North America being an interesting exception.

The most highly developed and formal system of compensation is found in England under the provisions of the Agricultural Holdings Act of 1948. The tenant has a statutory right to claim compensation of three general sorts: (1) long-term improvements; (2) medium-term improvements; and (3) tenant-right matters. Long-term improvements include the erection of buildings, provision of water, electrification, etc. Where a tenant has made such improvements, he has a right to claim compensation upon quitting his holding. He must, however, have obtained his landlord's consent prior to constructing them. Should the landlord refuse to give his permission, the tenant may appeal to the Minister of Agriculture who may approve such improvements as he considers reasonable. This approval then ranks as equivalent to landlord permission. The basis for compensation is the increase in the value of the holding which would enable the landlord to rent the holding at a higher rent.

Medium-term improvements include liming and drainage, and the consent of the landlord is not required.

The third class of improvements includes such things as growing crops or seeds in the ground, crops in storage, and acts of cultivation. The outgoing tenant is entitled to claim compensation for such of these improvements from which he cannot benefit but from which the incoming tenant may be expected to benefit. The basis for valuation is provided by statute unless a contrary agreement is included in the tenancy contract. In the case of dispute, the Minister of Agriculture may arbitrate and enforce an

agreement. Compensation may be agreed upon for various items besides those specified in the Act if the tenant and landlord make such an agreement in the tenancy contract.[33]

Similar requirements for compensation for unexhausted improvements including repairs exist in Sweden and other western European nations.[34]

Such measures for compensation, however, are not limited to the economically most developed areas of the world. In India several states recognize the right of tenants to make improvements and claim compensation for them if they are forced to quit their holding.[35] Similarly, in Cuba a tenant may claim compensation upon the expiry of his lease for improvements made during the first half of the lease "if they were necessary for the proper accommodation of his family and employees and the proper working of his farm."[36] The Agricultural Small Holdings Act, 1938, Leeward Islands "pioneered the way" for tenant security legislation in the West Indies.[37] This law adapted the provisions of the British system to the needs of the Caribbean region. It provided compensation for improvements

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33. United Kingdom Ministry of Agriculture and Fisheries, Agriculture Bill, Explanatory Memorandum (London: His Majesty's Stationery Office, 1946 [Cmd. 6996]), 18 pp.; United Kingdom Ministry of Agriculture and Fisheries, Explanatory Memorandum and Table of Comparison (London: His Majesty's Stationery Office, 1948), 16 pp.; and Renne, op. cit., pp. 55-58.

34. United Nations Department of Economic Affairs, Progress in Land Reform, p. 119.

35. Ibid., p. 128.

36. Ibid., p. 137.

37. Robert Johns, "The British System of Compensation for Unexhausted Improvements and Penalties for Dilapidations: Its Application to the West Indies," in Caribbean Commission, Caribbean Land Tenure Symposium (Washington: Caribbean Commission, 1946), pp. 81-90.

made with consent of the landlord, and for compensation for standing sugar cane.

In Great Britain the compensation principle is carried even to the point of providing compensation for disturbance "amounting to a minimum of one year's rent" and up to 2 year's rent in certain circumstances.[38] A similar compensation for disturbance is found in the Leeward Islands Act.[39]

Jacoby[40] points out that any compensation program, in order to have full effect, should apply to squatters which are common in South America as well as to more regular tenants. If squatters were entitled to compensation, the owner of the land would be "reluctant to eject them, and might accept them as regular tenants."

No compensation program is fair from the standpoint of social justice unless provision is made to protect the landlord's interest as well as the tenant's. Compensation for dilapidations such as soil erosion or deterioration of buildings is important, but provisions of property law generally cover this point adequately. In Great Britain when a tenant quits his holding the landlord may claim compensation "for dilapidations or damage to the holding caused by the tenant neglecting his responsibilities under the rules of good husbandry."[41] The payment is based on the "cost of

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38. United Kingdom Ministry of Agriculture and Fisheries, Agriculture Bill, Explanatory Memorandum, p. 14.

39. Johns, op. cit., p. 88.

40. Jacoby, op. cit., p. 36.

41. United Kingdom Ministry of Agriculture and Fisheries, Agriculture Bill, Explanatory Memorandum, p. 13.

making good the damage." In underdeveloped areas, as Johns[42] points out, special arrangements for such compensation other than those covered in existing property law "can only be put into practice as farming standards improve and secure general recognition."

Restriction of transfer of leased land. In several areas the economic horizon of the tenant farmer is lengthened by restricting the privileges of transfer of land under lease. In Japan[43] sales of land are not approved "which convey the ownership of tenant land to any person but the tenant or the members of his family, or which establish an intermediary leasehold." In Sweden[44] and in Great Britain,[45] as well as elsewhere, the sale of land does not abrogate the contract of tenancy.

Heritability of leases. From the standpoint of extending the economic horizon of the cultivator in order that resources may be used most efficiently, it is desirable that tenancy rights be heritable. Liversage[46] points out:

> Security should extend beyond the life of the sitting tenant to his heirs, as an important element in the endeavors of an occupier, particularly towards the latter part of his life, is provision for his family. If he cannot provide for them in the land, he will try the more to provide for them in the bank, and what goes into the bank may come out of the land.

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42. Johns, op. cit., p. 89.

43. United Nations Department of Economic Affairs, Progress in Land Reform, p. 130.

44. Ibid., p. 119.

45. United Kingdom Ministry of Agriculture and Fisheries, Agriculture Bill, Explanatory Memorandum, p. 14.

46. Liversage, op. cit., p. 111.

Tenancy legislation in the Netherlands provides the contract of tenancy is not broken upon the death either of the landlord or the tenant, but transfers to his heirs.[47]

Minimum length of tenancy agreement and notice to quit. Although the economic horizon of the tenant is theoretically lengthened to a period of time comparable to that of the owner-operator when there is a provision for compensation, the problems of adjustment and calculation of fair compensation have led to a use of a minimum period of tenancy fixed by statute law. In some cases this sets the minimum period of duration for a tenancy contract, while in other instances the legislatures have been content merely to set a minimum time between a notice to quit and the termination of the tenancy.

Renne[48] suggests that a provision in the lease which requires notice a specified time in advance of termination of the tenancy, "providing that this period is sufficiently long to assure the tenant time to arrange for another place, is probably the most effective way" of lengthening the economic horizon. Certainly this is not too extreme a measure for a first step toward controlling the length of contract, and may be all that is considered necessary in many areas, including many where agriculture is considered quite advanced.

Iowa law requires that notice to quit shall be given in writing and must be served by December 1 to take effect the following crop year. When such notice is served, the tenancy is terminated the following March 1.[49]

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47. Scheer, op. cit. (unpaged).

48. Renne, op. cit., p. 54.

49. Iowa, Code, 1950, Title 25, Chapter 562, Section 5.

Generally, however, notice to quit must be considerably longer. Among the more advanced areas where minimum notice to quit is longer are included Belgium where the minimum period of notice is 2 years,[50] and Great Britain where the contract of tenancy, when it can be terminated, may only be terminated after a period of 1 year.

Generally, however, outside North America it is usual to find legislation, if it exists at all, specifies some minimum period of lease contract beyond 1 year. That some sort of regulation is desirable is indicated by the situation in those underdeveloped areas where no such protection exists. In the Middle East, for instance, landlords may shift tenants around at the end of every year to give the more fertile plots to favored tenants who pleased them in some manner or another.[51]

Minimum lengths for which a tenancy contract is valid vary widely depending upon the conditions of the agriculture and the viewpoint of the society toward landed property. In the United States it is not common to find any minimum. In Great Britain the length of the contract runs the lifetime of the tenant so long as he practices "good husbandry" and wishes to continue to cultivate his holding.[52] In Belgium, the minimum period is 9 years.[53] In the Netherlands, individual parcels without buildings must

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50. United Nations Department of Economic Affairs, Progress in Land Reform, p. 119.

51. United Nations Department of Economic Affairs, Land Reform, Defects in Agrarian Structure as Obstacles to Economic Development, p. 16.

52. United Kingdom Ministry of Agriculture and Fisheries, Agriculture Bill, Explanatory Memorandum, p. 13.

53. United Nations Department of Economic Affairs, Progress in Land Reform, p. 119.

be rented for a minimum of 6 years, while farms (i.e., with buildings) must be rented for a minimum of 12 years, with, however, provision for adjusting rent every 3 years.[54]

In underdeveloped areas, legislative restrictions on the minimum length of time for leases are not uncommon. In India, the minimum is from 5 to 10 years in different states. Generally the tenant may not be evicted except for default in rent payments, bad cultivation techniques, or resumption of the land by the landlord for his own use.[55] In Cuba, the minimum length of time is 3 years.[56] In Mexico the interest of the tenant in any event continues until he harvests standing crops, or picks ripening fruit.[57] On Formosa tenancy contracts must run a minimum of 6 years, are "subject to renewal upon request of the tenant," and may be terminated only if the landlord wishes to resume cultivation himself (although even then "his claim will not be approved if the tenant cultivator has no alternative means of support.")[58] In Japan landlords may not terminate a tenancy contract without prior consent of the prefectural governor and without 6 to 12 months notice.[59]

Such measures as those relating to minimum time and tenant security

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54. Scheer, op. cit.

55. United Nations Department of Economic Affairs, Progress in Land Reform, p. 127.

56. Ibid., p. 137.

57. Ibid., p. 135.

58. Ibid., p. 131.

59. Ibid., p. 130.

as cited above afford opportunity for the sitting tenant to sublet his land profitably rather than terminate his lease, should he wish to stop cultivating his holding himself. As would be expected, therefore, most of the nations used as examples also have strict legislation preventing subletting, and providing that a landlord may terminate the tenancy contract in the event the tenant should sublease.

In establishing minimum lengths of time for tenancy contracts and provisions for renewal, means should be formulated to enable landlords to move inefficient farmers off their lands. In Great Britain, a landlord may appeal to the Minister of Agriculture to put a tenant under supervision "to make him fulfill his responsibility to manage or farm the land in accordance with the rules of good estate management or good husbandry." If, after a year under supervision the tenant fails to show satisfactory improvement, the minister is empowered to dispossess him.[60]

Recent reforms in underdeveloped nations, the United Nations Department of Economic Affairs[61] notes:

> . . . extend tenants' security to such a degree that it may lead to an unnecessary rigidity in the farming system and perhaps to some inefficiency by restricting the entry of new farmers and maintaining the inefficient farmer on his holding. ✓

Promotion of owner-occupiership. Another pattern of emphasis to reduce uncertainty arising from conditions of tenure is to promote owner-occupiership.

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60. United Kingdom Ministry of Agriculture and Fisheries, Agriculture Bill, Explanatory Memorandum, p. 8 f.

61. United Nations Department of Economic Affairs, Progress in Land Reform, p. 121.

Owner-occupiership within the framework of the necessary conditions for economic development. It may be seen that the uncertainties which arise when a tenant cultivator cannot be sure he will realize benefits in the future arising out of present efforts are substantially reduced if he subsequently becomes an owner-occupier. When this is the case, he has full economic incentive to allocate resources within his firm to achieve the optimum output. His motivations mesh with and are reinforced by efforts on the part of the economy as a whole to move toward fulfillment of the necessary conditions for economic development. He will attempt to increase the efficiency of his labor. The problem of factor rewards in accordance to contribution for wholly owned resources is greatly reduced. Efforts to encourage increased efficiency through adjustments in economic and social institutions will provide the cultivator with direct incentives to improve allocations within his farm firm. Barriers to achieving increased efficiency through more widespread dissemination of information will be reduced. As an owner-occupier, the cultivator will be better able to secure the credit he needs to operate at the optimum output, improving the efficiency of capital.

Present situation in underdeveloped countries with respect to owner-occupiership. In many underdeveloped areas, land ownership is extremely unequal and the proportion of tenancy high. Nearly 70 per cent of all persons engaged in agriculture in India did not own the land they tilled, Dantwala[62] estimated in 1951. In Egypt in 1947 less than one half of

62. M. L. Dantwala, "Land Tenure Problems in Countries With Heavy Pressure of Population on Land," in Conference on World Land Tenure Problems, Proceedings, Part 1 (Madison, Wisconsin, October 8 to November 20, 1951), unpaged.

1 per cent of the number of proprietors controlled nearly 37 per cent of the total cultivatable land, while the 94 per cent of the proprietors holding less than 5.2 acres (5 feddans) held less than a third of the land, and the 70 per cent of the owners holding less than 1 acre (1 feddan) held only 13 per cent of the area.[63] Throughout Asia, the proportion of tenants as a rule is "very high," over half the land being worked by tenants in most of south and southeast Asia. In the Middle East except for Cyprus, Lebanon, and Turkey, "tenancy is widely prevalent," although "no estimate of the proportion of tenants to owners can be made owing to the lack of statistical data."[64] In the Argentine 85 per cent of the privately held agricultural land is in large estates and 80 per cent of the farm population does not own land.[65] Many of the large holdings in all these areas are owned by absentee landlords with little direct interest in their holdings other than as a source of income.

Furthermore, the possibility of rising out of the laborer, tenant, or very small owner class is extremely limited in most underdeveloped areas under normal conditions. Jacoby[66] reports the economic system in Burma:

> . . . hardly ever makes it possible for a tenant, however thrifty, to work his way up the social scale by saving enough capital either to acquire or lease land without being heavily indebted.

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63. United Nations Department of Economic Affairs, Land Reform, Defects in Agrarian Structure as Obstacles to Economic Development, p. 9.

64. Ibid., p. 14.

65. Ibid., p. 10.

66. Erich H. Jacoby, Agrarian Unrest in Southeast Asia (New York: Columbia University Press, 1949), p. 88.

In Egypt, Ezzat[67] reports the value of an acre of farm land was "equal to about 20 years of the average Egyptian worker's wages" (compared to 10 days in the United States). Far from the peasant making progress toward ownership or enlarged operation as a tenant, Dantwala[68] notes a "continuous regression on the agricultural ladder" and a "marked tendency for the land to pass into the hands of noncultivating owners in India."

Since World War II there has been a number of agrarian reforms in various underdeveloped countries which have contemplated promotion of owner-occupiership through large scale transfer of ownership rights in land from landlords to cultivating tenants. Generally these have been undertaken in areas where there is heavy population pressure on the land. The United Nations Department of Economic Affairs[69] reports its survey indicates programs to promote owner-occupiership have been undertaken in 16 nations since 1945: Formosa, India, Japan, Pakistan, Czechoslovakia (which has since turned to collectivization), Finland, West Germany, Italy, Poland, Spain, Yugoslavia, Egypt, Turkey, Bolivia, Mexico, and Puerto Rico. Some of these programs have not been very far-reaching in their extent, while others--notably that in Japan--have had important effects on the tenure system of the nation.

Quantitative indications of the number of people affected by these programs to promote owner-occupiership are difficult to gain. The United

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67. Ezzat, op. cit. (unpaged).

68. Dantwala, op. cit. (unpaged).

69. United Nations Department of Economic Affairs, Progress in Land Reform, p. 285.

Nations Department of Economic Affairs[70] notes, however, that "in Asia . . . many millions of cultivators have acquired ownership of their holdings." Transfer measures "of decisive importance" are reported in India, Pakistan, Japan, and Formosa. Some indication of the scope of programs to promote owner-occupiership is given in Table 11.

Table 11. Area of land and number of families affected by measures to redistribute ownership rights in selected countries, 1945-1953[a]

Country	Area scheduled for transfer (thousands of hectares)	Area transferred to date of reply (thousands of hectares)	Number of families affected
Formosa	64	52	106,823
Czechoslovakia	4,500	1,750	350,000
Finland	...	2,053	129,680
Italy	700	187	39,691
Japan	2,441	2,383	4,218,000
Mexico (1948-1952)	...	3,985	84,547
Poland	...	6,000	981,300
Turkey	...	272[b]	55,385
Yugoslavia	1,566	797	316,464

[a]Adapted from United Nations Department of Economic Affairs, Progress in Land Reform, p. 92. Of 16 nations reporting redistribution programs, India, Pakistan, Egypt, Bolivia, West Germany, and Spain gave either no figures or very incomplete figures to indicate the amount of land transferred and the number of families affected.

[b]Plus 149,650 hectares of pasture land allotted to villages.

70. United Nations Department of Economic Affairs, Progress in Land Reform, p. 92.

Remedial alternatives

Compulsory purchase and redistribution. Redistributing land, of course, is an obvious remedial alternative suggested by the earlier theoretical analysis. Most of the recent transfer programs in underdeveloped countries have relied to an important extent upon compulsory purchase or expropriation (with compensation) of land held by landlords. These lands, in turn, have been resold to cultivating tenants who are expected to pay for their holdings over a period of years.

Several of the recent purchase and redistribution programs in underdeveloped areas have been very ambitious. In Japan, the purchase program affected nearly one-third of the cultivated land, and over half the rural households purchased land.[71] The extent of progress in such countries as India and Pakistan is difficult to assess because of a lack of adequate statistical data, but the scope of the legislation is comprehensive.

In both India and Pakistan it is interesting to note the transfer programs are aimed not only at the establishment of peasant proprietors, but at the total abolition of the zamindari form of tenure characterized by a number of intermediate tenants. In these instances, the criterion for expropriation becomes not alone the size of holding, but the form of tenure. It is hoped virtually to eliminate the rent-receiving landlord.[72] In Puerto Rico a 500-acre limitation on corporate holdings was incorporated into the Organic Act of Puerto Rico 2 years after the United States

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71. Hewes, op. cit., p. 91.

72. United Nations Department of Economic Affairs, Progress in Land Reform, p. 53.

acquired possession of the island. The limitation was held constitutional by the United States Supreme Court in 1940, and enforcement proceeded during the following years.[73]

On Formosa, a transfer program begun in 1953 aims to transfer all "excess" land holdings to cultivators. A limit of 7.4 acres (3 hectares) of paddy field or 15 acres (6 hectares) of dry land is set as the maximum holding. The program would redistribute some 70 per cent of the total tenant land in Formosa affecting about 35 per cent of all farm families. Other programs have transferred to owner-occupiers land expropriated from Japanese monopoly holdings.[74]

The principles of social justice within the framework of a democratic-humanitarian society dictate that landlords who are cultivators and must continue to earn their livings in agriculture should be allowed to retain some minimum amount of land for their own use after a transfer program. The exact area cultivating owners will be allowed to retain will, of course, vary with the country and with the kind of land involved.

To establish the retention area involves a classification of land on the basis of its production potential, and the establishment of accurate ownership records. As Johnson[75] points out:

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73. S. L. Descartes, "Historical Account of Recent Land Reform in Puerto Rico," in Caribbean Commission, Caribbean Land Tenure Symposium (Washington: Caribbean Commission, 1946), pp. 129-149.

74. Will Lissner, "Nationalist China's Land Reform in Formosa," American Journal of Economics and Sociology, Vol. 22, No. 3 (April, 1953), p. 300.

75. V. Webster Johnson, "Financing Land Redistribution," in International Conference on Agricultural and Cooperative Credit, Proceedings, Vol. 1 (Berkeley, California, August 7 to October 2, 1952), pp. 69-74.

> It is necessary to know with respect to each landlord the amount of land owned and its location and character, as retention acreages should vary with the character of the land. The completion of this task is a substantial undertaking, but an essential part of an equitable program of land redistribution.

In areas where population pressure is high, a fixed maximum limit of land which may be held by a single owner may be established. This maximum not only establishes the maximum retention area, but also prevents landlords from buying land after the redistribution program has been completed. In Japan, the "total of tenanted lands and of self-tenanted land" was set at some 7.3 acres (3 cho) including not more than an average of 2.4 acres (1 cho) of tenanted land.[76] In Italy, in order to encourage high standards of farming, expropriation quotas were established on a progressive basis calculated on the land rent of the total property and per hectare. "Both rents must be taken into account in order to attain the end of expropriating larger quotas from properties less intensively cultivated," Fanfani[77] explains. Furthermore, certain efficiently operated farms "practicing intensive cultivation and managed on the associate system, with wage-workers and with modern and centralized equipment" were "exonerated from expropriation." Another provision exempts farms engaged in producing breeding stock or farms on which a private reclamation project has been carried out.

A case is sometimes put forth to exempt certain types of agricultural enterprises which have important economies of scale from expropriation.

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76. Hewes, op. cit., p. 29.

77. Amintore Fanfani, The Land Reform in Italy (Rome: Ministry of Agriculture and Forestry, 1953), p. 17.

Sugar cane plantations are probably the most important example. These suggestions should be examined critically in view of operations such as that of the Colonial Sugar Corporation in Fiji cited earlier[78] and the possibilities for proportional-profit farms such as have been established in Puerto Rico.[79]

Compensation procedures in redistribution programs. In a democratic society, compensation of landowners for expropriated holdings must of necessity be included in any redistribution program to accord with the concepts of social justice. There are, however, several alternative means available.

In most underdeveloped areas the money for a cash compensation of landlords could not be paid by any means save printing currency. Such vast sums of money as would be involved in a transfer program of broad scope would probably lead to serious inflation with the inequities and economic disturbances which accompany inflation.

The principal alternative is to pay compensation in the form of government bonds. These bonds would then be redeemed from revenue paid the government by the new owner-occupiers out of their farming income over a period of time. Issuing bonds, of course, amounts to a compulsory loan on the part of landlords, the amount being equal to the price they receive for their land.

If the land purchase bonds are negotiable, the effects are likely to

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78. Liversage, op. cit., p. 39.

79. Luis Rivera Santos, "Tenure Innovations and Agricultural Production in Puerto Rico," in Conference on World Land Tenure Problems, Proceedings, Part 1 (Madison, Wisconsin, October 8 to November 20, 1951), unpaged.

be much the same as issuing cash. Therefore the most common practice in recent reforms has been the issuance of nonnegotiable bonds which are retired over the period of a number of years at approximately the same rate as the new owners repay the government. The inflationary effects are thus neutralized.

In carrying out such a compensation program, however, it may be advisable to make cash payments for some part of the purchase price or to make the bonds negotiable in certain cases of undue distress or as a matter of equity in settling estates. The amounts of cash would vary with the size of the estate expropriated.[80]

One of the problems faced in several underdeveloped countries including Japan and Korea was that inflationary tendencies in the countries attempting transfer programs threatened to rob the landlords of anything like a fair price for the land expropriated. This is one of the criticisms of the Japanese agrarian reform Campbell[81] brings out. To meet this, some device such as the "rice bonds" used in Korea--in effect pegging bonds to commodity index--might be used. Bunce[82] reports that in Korea:

> The landlord was given a bond which was equivalent to a certain quantity of rice, and each year when he obtained his income from that bond in settlement, he obtained not a fixed sum of money but a sum of money equivalent to the quantity of rice.

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80. Johnson, op. cit., p. 71 ff.

81. Colin D. Campbell, "Weak Points in the Japanese Land Reform Program, Journal of Farm Economics, Vol. 34, No. 3 (August, 1952), pp. 361-368.

82. Arthur Bunce, "Financial Aspects of Land Reform in the Far East," in Conference on World Land Tenure Problems, Proceedings, Part 1 (Madison, Wisconsin, October 8 to November 20, 1951), unpaged.

Aside from how to make the payment in such a way as not to overextend the resources of the government and to avoid inflation, there remains the thorny problem of a "fair" price. In most underdeveloped areas where there is a concentration of land ownership, there usually is not an established land market. A monopoly position on the part of landlords tends to force the price to high levels when land is available for sale. However, a concept of a "just" compensation would of necessity be based upon some sort of marginal value product concept--that is, in some manner commensurate with the productivity of the land. When there is no existing land market this is extremely difficult to determine, and, in fact, various transfer programs have been criticized on this basis. Gilmartin and Ladejinski[83] reported the prescribed land prices in Japan were one-tenth or less than the levels in the black market.

Commenting on the problem of a fair price, Johnson[84] writes:

> It is apparent that the resale of land must, above all else, be at a fair price to purchasers--that is, reasonable in terms of the productive capacity of the land, on just terms, and at a price that leaves above the carrying costs of the indebtedness a return sufficient to provide for improved rural living in terms of monetary and human values. To finance a land redistribution program on any other basis is to incorporate defeat in the first instance.

If the price of land in free transactions is set when there is a large element of monopoly power forcing the price well above the marginal value product, in theory it still would be possible to arrive at a "fair" price

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83. William M. Gilmartin and W. I. Ladejinsky, "The Promise of Agrarian Reform in Japan," Foreign Affairs, Vol. 26, No. 1 (January, 1948), pp. 312-348.

84. Johnson, op. cit., p. 69.

on the basis of productivity. In practice, some sort of working rule of thumb, such as a level which will still leave some improvement in rural living standards, as Johnson suggests, will probably be necessary.

Johnson[85] also points out that one of the "real needs" in a transfer program is a program to encourage the alternative investment of capital that landlords formerly had tied up in land. Opening new investment alternatives is thus a "very important supplementary program," and failure to find suitable alternatives may well be a "limiting factor to the successful execution" of a redistribution program. Available alternatives will reduce landlord opposition to the redistribution program as well as contribute directly to the economic development of the area.

From the standpoint of the nation, it is likely that a redistribution program will strain the financial resources of the society. If the program can be properly organized so that farmers can acquire holdings on terms which are fixed according to the productivity of their holdings, the United Nations Department of Economic Affairs[86] suggests transfer programs "need not involve a heavy financial burden to the State."

Most writers, however, would agree that even a well organized program will impose a heavy burden if the redistribution is of very wide scope. It is probable also that the nation will want to assist new farmers with operating capital, and perhaps will want to undertake new developmental and reclamation schemes at the same time as the redistribution. If the

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85. Ibid., p. 73.

86. United Nations Department of Economic Affairs, Progress in Land Reform, p. 295.

nation does no more than transfer ownership rights, then the program probably indeed need not be too heavy a burden for the nation to meet unassisted. But in cases where other kinds of measures to improve the efficiency of resource use in agriculture are contemplated simultaneously, it may be necessary to obtain foreign capital. Although the International Bank for Reconstruction and Development is making loans for projects of agricultural improvement, international programs of this nature are still probably grossly inadequate. In this situation, nations in underdeveloped areas will of necessity be forced to limit their transfer programs and ancillary programs to the limits of their internal resources with limited help from abroad.

From the standpoint of administration, the delegates to the Conference on World Land Problems suggested the transfer program be carried out by two separate agencies, a land bank and a land redistribution agency. The land bank would borrow money, issue bonds to the land redistribution agency, and take as security mortgages on the new owners. The land redistribution agency would use the bonds issued to compensate landlords for their land, but would mainly concern itself with the distribution of land to new farmers and providing them with extension services. To accomplish its mission it would require a government subsidy.[87] This is more comparable to the Italian plan where a special agency was established to supervise the transfer, than the Japanese where local land commissions were

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87. "Problems of Financing Land Distribution" [Report of Working Party No. 13], in Conference on World Land Tenure Problems, Proceedings, Part 3 (Madison, Wisconsin, October 8 to November 20, 1951), unpaged.

charged with the supervision of the transfer.[88] However, for a widespread program in an underdeveloped area where technical personnel will be at a premium, it might seem the Japanese plan of delegating the maximum possible responsibility to local authorities would be superior.

A land transfer program probably should be planned so that the major portion if not all of the funds for compensation payments to former landlords is derived from the new owners in the form of regular payments over a period of several years. In most nations where transfer programs have been carried out, this has proved possible while still keeping payments to a level at least no higher than former rents. In some instances in India, the United Nations Department of Economic Affairs[89] noted, the tenants' inability to meet annuity payments sufficient to compensate landlords at a fair rate is cited as a major obstacle to transfer programs. However, the problem varies widely from state to state. In some areas of India the maximum total compensation is set as low as two times the annual rent; in these areas the tenants' problem of meeting payments would seem not too difficult. In other areas the compensation is so high as to make equivalent tenant payments prohibitive. Quantitative indications of the numbers of transfers under different conditions are difficult to obtain.

Indian legislation aimed at eliminating the zamindari and related forms of tenure seems to have been enforced to some extent, although quantitative data are also difficult to secure. All estates held under these

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88. Hewes, op. cit., p. 54 ff.

89. United Nations Department of Economic Affairs, Progress in Land Reform, p. 56.

forms are subject to expropriation. The United Nations Department of Economic Affairs[90] notes:

> The rights of ownership under these tenures are taken over from the intermediaries against compensation. In some States, rights of ownership are then conferred on the tenants. In others, the State takes over the rights of the intermediaries, and the tenants become tenants of the state until such time as they have paid to the State a sum equivalent to the purchase price of their holdings. . . . In some States, although legislation has been enacted, transfer of ownership is not expected to occur in the near future, since tenants are unable to pay the full price, but must continue to pay rent to the State.

In underdeveloped areas where a redistribution program of wide scope of the sort carried out in Japan is contemplated, it may be wise to consider a tenant payment procedure adjusted to some index. This is analogous to the compensation in the form of "rice bonds" cited earlier. Provision should also be made for flexible repayment schemes which would allow the new owners to pay off their debts at an accelerated rate in good years.

Restriction of rights of new owners. Transfer programs in underdeveloped areas usually restrict the rights which new owners gain in their land. Legislation to restrict alienation of newly created holdings is sometimes enacted, although in most areas of extreme overpopulation where redistribution measures set maximum prices and alternative opportunities are limited, transfer of new holdings does not seem to have become a problem. Similar restrictions are placed on subletting, although some provision for leasing is desirable. In general this, too, seems not to have been too pressing a problem in underdeveloped areas where heavy population pressure and other land legislation has set a limit to transfer

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90. Ibid., p. 55 ff.

possibilities. It may be pointed out as before, that subletting of any sort is illegal under the tenancy acts in India.

As mentioned earlier, some authors suggest the goals of a redistribution program would be better served if expropriated land were not sold to tenants at all, but were retained under national ownership and cultivation rights leased under conditions of extreme security of tenancy to individual farmers.

Measures to reduce holding land as an investment. In carrying out a program to promote owner-occupiership, measures to increase tenant security and to reduce high fixed costs to the operator during the transition period can contribute to the smooth working of the redistribution program. Tang[91] reports that on Formosa soon after the rent reduction program was instituted, there was "witnessed the drop of land prices" and "the weakening of the landlord's desire for land ownership." Bunce[92] notes that one of the first measures of the military government in Korea was to reduce rent levels to a maximum of one-third of the crop. This reduction brought "pressure on the landlord to sell his land because it [was] no longer as profitable to hold it."

Taxation measures too can be used to facilitate transfer programs. A progressive land tax such as is assessed in Egypt can reduce the incentive to hold land as an investment and encourage transfer to small holders. (In North America a form of progressive land taxation exists in the form of the

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91. Hui-sun Tang, "Rent Reduction and Land Purchase Program in Formosa," in Conference on World Land Tenure Problems, Proceedings, Part 2 (Madison, Wisconsin, October 8 to November 20, 1951), unpaged.

92. Bunce, op. cit. (unpaged).

widespread homestead exemptions.) Progressive taxation also may have the effect of forcing undeveloped land into more intensive use, often through sale to owner-occupiers.

Johnson and Barlowe[93] suggest heavy death and estate taxes as another effective means to facilitate transfer.

It must be emphasized, however, attempts to initiate widespread transfer of ownership through such measures in place of expropriation have not been successful in underdeveloped nations. Not only are such measures difficult to enforce to the extent which would be necessary to encourage large scale transfer, but the operation of the program is too slow. As Bunce[94] points out, "the people of the Orient today do not want to wait for many of these reforms."

Shifts from communal to individual tenure in areas of strong group traditions. Although adjustments of tenure forms to overcome resource inefficiencies in areas of strong group tenure tradition can often harness that tradition, sometimes individual tenure can be substituted to advantage. There is ample evidence in past experience to indicate the transition from group to individual tenure under certain circumstances, even when group traditions are strong, may be carried out successfully and to the advantage of individual cultivators.

An outstanding example is the Gold Coast where the development of individual forms of tenure has progressed under the impact of a cash cropping

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93. V. Webster Johnson and Raleigh Barlowe, Land Problems and Policies (New York: McGraw-Hill Book Company, Inc., 1954), p. 397.

94. Bunce, op. cit. (unpaged).

system and a money economy. It is the Gold Coast, too, which has probably the most highly developed self-rule and economic development of any colonial territory in Africa. The introduction of commercial cocoa production prior to 1900 is perhaps the most important outside influence responsible for this development. Cocoa has remained a crop grown primarily by individual farmers rather than a plantation crop. It is, of course, also a perennial crop. This has led to a strong insistence on the part of native farmers for a secure title and what amounts to freehold possession in order that they may be assured of a future return for future efforts.

Somewhat similar conditions in Uganda have led to the development of a tenancy system with strong safeguards for the tenant. In this case the cash crop is cotton. It would seem, however, that the case of the Gold Coast is more fortunate and has more of interest for other underdeveloped areas with forms of group tenure.[95]

Credit programs. In economically more advanced nations, programs of wholesale redistribution of land have not been common in recent years. Several of these nations have, however, made long-term credit available at low rates and under provisions designed to meet the special needs of agriculture. These programs might be of some relevance in underdeveloped areas where such considerations as a lack of resources or administrative personnel, entrenched political power on the part of landlords, or an already high proportion of owner-operators would indicate a general redistribution program to be undesirable. In such nations, a program of

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95. United Nations Department of Economic Affairs, Land Reform, Defects in Agrarian Structure as Obstacles to Economic Development, p. 29 ff.

long-term credit with which tenants may purchase farms in the open market might be desirable.

One example of such a program is the continuing United States program begun in 1916 with the creation of the Federal Land Banks. These banks, now wholly owned by member-farmers, sell bonds to the investing public. The bonds are not guaranteed by the government but are backed by the mortgages and other assets of the Land Banks. Twelve of these banks serve various areas of the nation. Funds are loaned through local National Farm Loan Associations. The whole system operates on co-operative principles with local boards of directors controlling the local operation and approving loan applications.[96]

Another program in the United States which enables tenants to purchase farms is financed by federal funds and operated by the Farmers Home Administration. It is designed to provide long-term loans for those tenants who cannot qualify for loans from other sources, including the National Farm Loan Associations. Local committees help administer this program, too, advising the government personnel concerned as to whether an applicant's skill and character justify a loan. The principal security for such a loan is provided by the supervision of the loan on the part of government personnel. Such supervision is not expected to be repaid out of the servicing costs of the loan, but is borne by the federal government.

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96. Wallace York, "Government Sponsored Agricultural Credit Agencies, Federal Land Banks," in International Conference on Agricultural and Co-operative Credit, Proceedings, Vol. 1 (Berkeley, California, August 4 to October 2, 1952), pp. 132-137.

(Supervised credit is discussed in more detail elsewhere.)[97]

A program of loaning funds obtained in the money market to individual cultivators in order to enable them to purchase farms has been established by the Bank for Agricultural and Industrial Development of Cuba. These loans are secured by real estate mortgages. The program, however, does not seem to have been very important in terms of the number of cultivators reached.[98]

In considering such long-term credit programs, several special adaptations to meet the needs of agriculture may be mentioned. One important consideration is some means of flexible repayment to enable cultivators to be "insulated from sudden shocks of market or weather."[99] It may be desirable to organize supplemental operating credit at the same time long-term credit arrangements are being made, in order that cultivators do not find themselves unable to develop newly acquired property to its most economic level of productivity. In underdeveloped regions some form of supervision may be desirable to assure the cultivator will be able to organize his farm in such a manner as to be able to meet his obligations and to

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97. Thomas C. Blaisdell, Jr., Elizabeth K. Bauer, Henry E. Erdman, and Irving F. Davis, Jr., Farm Credit in Underdeveloped Areas (Berkeley: University of California in co-operation with the Foreign Operations Administration, the Department of State, and the Department of Agriculture, 1953), p. 25.

98. Digby Solomon Espinosa, "Agricultural Credit in Cuba," in International Conference on Agricultural and Co-operative Credit, Proceedings, Vol. 2 (Berkeley, California, August 4 to October 2, 1952), pp. 649-652.

99. Ayers Brinser and Richard G. Wheeler, "Farm Planning as a Basis for Extending Agricultural Credit," Journal of Farm Economics, Vol. 30, No. 2 (May, 1946), pp. 243-258.

to reach a minimal level of living. (General problems of operating credit are discussed in more detail elsewhere in connection with resource inefficiencies engendered by high costs of operating capital.)

Promotion of group tenure. In many instances in the underdeveloped areas of the world attempts to reduce resource inefficiencies engendered by uncertainties due to conditions of tenure do not point toward any form of individual tenure--either tenancy or owner-occupiership. Instead the most promising pattern of remedial alternatives appears to be some form of group tenure, and several nations have made significant attempts in this direction.

(It should be made explicitly clear that group tenure does not necessarily entail Communism; the proportional profit farms in Puerto Rico organized under the auspices of the United States government should amply demonstrate that point.)

Group tenure within the framework of the necessary conditions for economic development. The necessary conditions for economic development may be fully met within the remedial pattern of group tenure. Indeed, group tenure offers an important instance of an adjustment in economic and social institutions which can promote increased efficiency. By operating with larger units, and with more capital and information than could be secured by individual tenants and owner-occupiers, group tenure may offer superior means to achieve the necessary conditions than individual tenure, particularly where the crop grown is one like sugar which requires a fairly large unit and well-developed technology.

The greatest failure element of group tenure--and often the fatal weakness--is the failure to meet the condition that factor rewards be in

accordance with contribution. This results in a lack of private incentive, and in turn may lead to reduced efficiency in resource use. Group tenure schemes, therefore, to a large measure stand or fall on their ability to identify individual effort with individual benefit, either in direct material rewards, as is the case in the agriculture of most of the world, or in individual prestige, as may be the case in certain primitive systems. It is principally for this reason that the fully collective farm--where every individual contributes all his time to the communal effort and draws all his benefits from an equal division of the product--has invariably failed in any extensive trial.

Group tenure may represent an adjustment to promote increased efficiency which is superior to individual tenure because of an existing tradition of group tenure within a society. The framework of the necessary conditions for economic development would indicate that this pattern of adjustments is preferable where greater efficiency can be secured than would be the case under individual tenure forms. This is perhaps the case in a number of African areas where tribal tenure is well established.

An example of adjustment of economic and social institutions within the remedial pattern of group tenure is found in the Belgian Congo where the impact of Western penetration and commercialization of agriculture has led to resource inefficiencies. In this area, the government of Belgium emphasizes, "it is almost impossible . . . to work for a rational reform of agriculture through an individualistic approach."[100] The analysis of this position continues:

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100. United Nations Department of Economic Affairs, Progress in Land Reform, p. 35.

> To introduce individual ownership, in a society essentially collective, would encounter practical and technical difficulties. . . . To prevent the practice of shifting cultivation would result in starvation for the indigenous population, so long as the Administration does not make available to them the fertilizers and methods which would allow continuous cultivation. The grant of individual tenure would also entail dangers of fragmentation of individual holdings, and of sale resulting from indebtedness to commercial interests. The result would be not economic progress, but the impoverishment of the rural population, and increased exhaustion of the soil.

The indigenous tribal tenure systems of Africa which existed before contact with the West were well adapted to the climatic and topographical conditions existing in the tropical and subtropical regions of their environment. In many other underdeveloped areas the advantages of group tenure may stem not from the tradition of group tenure, but from the physical and topographical conditions which exist. In these instances, too, the necessary conditions relating to economic and social adjustments to promote efficiency would seem to point toward a pattern of group tenure remedial alternatives to overcome resource inefficiencies within an existing tenure system.

Group tenure may also be superior to individual tenure forms in meeting the necessary condition for more widespread dissemination of information. Channels of information may be easier to mobilize and use effectively to promote increased efficiency under conditions of group tenure.

Present situation in underdeveloped countries with respect to group tenure. Although in recent years group tenure has been the object of considerable interest in underdeveloped areas where there is a tradition of individual tenure, there has been little progress made in most of them with the significant exception of Mexico. The United Nations Department

of Economic Affairs[101] reports other measures to promote group tenure from the Sudan, Formosa, Israel, and Pakistan, and India. Although the government of India "regards co-operative farming as an important objective," relatively little progress toward achieving the goal seems to have been made. In 1951, the government reported only 155,000 acres in the whole of India were included in any form of group tenure.[102] In Mexico, nearly two-thirds of the people engaged in agriculture now work on ejidos.[103] In Puerto Rico, in recent years, attempts have been undertaken to organize proportional profit farms.[104] In the Sudan, under the direction of the British administration, the Gezira Scheme to overcome fragmentation is in successful operation.[105]

In Bolivia, where in 1950, 4.5 per cent of the rural landowners held 70 per cent of the private landed property, an Agrarian Reform Decree in August, 1953, established the outlines of the redistribution program. The decree allows communal holdings where Indian communities desire them and permits the continuance of the large "agricultural enterprise" which is heavily capitalized and uses modern agricultural techniques. It is expected this large holding will "contribute in the short run to partially

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101. Ibid., p. 246.

102. Ibid.

103. Nathan L. Whetten, Rural Mexico (Chicago: The University of Chicago Press, 1948), p. 240.

104. Descartes, op. cit., p. 144.

105. J. D. Tothill (ed.), Agriculture in the Sudan (London: Oxford University Press, 1948), 974 pp.

eliminate the food deficit of the country."[106]

In areas where a widespread tradition of group tenure exists, principally those areas of Africa south of the Sahara, there is a number of instances where resource inefficiencies have been engendered by uncertainties attendant upon the commercialization of agriculture and the shifts of political power which have come with Western penetration.[107]

Remedial alternatives

Adjustments to promote tribal tenure. In areas where tribal tenure existed, Western penetration has often changed the economic and social conditions to such an extent that indigenous systems became out of harmony with the social environment. Western settlement restricted the area in which the indigenous tribal systems could operate. Western sanitation increased the populations. Western commercialism introduced new incentives into tribal societies. Outside employment drained off young men and disrupted tribal and family life.

Where tribal tenure exists, agriculture is often carried on under some form of shifting cultivation. This may be an acceptable form of adaptation to environment when enough area is available, as was probably the case in most of tropical Africa before Western penetration. With a restriction of area and an increase in population pressure, however, shifting cultivation becomes wasteful and has resulted in wholesale destruction

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106. Edmundo Flores, "Land Reform in Bolivia," Land Economics, Vol. 30, No. 2 (May, 1954), pp. 112-124.

107. United Nations Department of Economic Affairs, Land Reform, Defects in Agrarian Structure as Obstacles to Economic Development, p. 27 ff.

of forest and serious erosion problems. Liversage[108] reports that in Nigeria estimates place the acreage taken up for cultivation was from five to nine times that required under a more intensive system.

Many of the social and economic problems which exist in underdeveloped areas today may be traced to a misunderstanding of the nature of shifting cultivation on the part of early Western officials and settlers. In particular, relying on analogy with European cultivation, they did not realize that uncultivated and apparently unoccupied territory was, in fact, within the framework of the shifting culture.[109]

When the governments responsible for these areas did begin to recognize the local tribal rights and set aside reserve areas, the size of the reserves proved too small to support the native populations under the existing agricultural and pastoral technique.

One of the difficulties in these underdeveloped areas has been the alienation of the land by native peoples to white settlers. To prevent further encroachment on the land resources of native populations, therefore, modern administrations are considering such legislation as was first encountered in the Glen Grey Act of 1894 in South Africa which restricts the right of a native claimholder to alienate his land, even though he has exclusive claim to the cultivation rights of his holding. There is also a restriction on mortgaging the land, and upon fragmentation in settling an estate.[110]

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108. Liversage, op. cit., p. 12.

109. United Nations Department of Economic Affairs, Land Reform, Defects in Agrarian Structure as Obstacles to Economic Development, p. 31.

110. Liversage, op. cit., p. 123.

An important drawback to shifting culture in these areas is the lack of incentive for the native claimholder to plant perennial crops in areas where a periodic redistribution of the land is practiced. In trying to promote an agriculture more in line with modern economic conditions, this raises special problems of resource inefficiency.

One of the areas where the misunderstanding of the nature of shifting agriculture and the impact of Western commercialism has had a most disrupting effect is the Belgian Congo. To meet the disintegration of the native societies, the government of Belgium has undertaken a policy to institute colonial development. The government is encouraging cultivation by the indigenous inhabitants for their own profit of the land in the region. The title to the holdings may be held either in individual or communal tenure. The first step is a complete inventory of the region to establish the number of inhabitants and the institutional structure of their culture. The next step is the delimitation of the area of individual holdings based on an agronomic appraisal of the land and on the agricultural methods most appropriate. This area includes any land necessary in order to provide for land to lie fallow. Finally, the holdings are allotted to individual families, with certain restrictions in their tenure. "Under these settlement schemes the traditional system of shifting cultivation is modified and controlled, but not entirely abandoned."[111]

Where communal tenure is tied to religious forms such adaptation may be nearly impossible. In these cases other means may be necessary to

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111. United Nations Department of Economic Affairs, Land Reform, Defects in Agrarian Structure as Obstacles to Economic Development, p. 32.

correct resource inefficiencies.[112]

Co-operative farming. Co-operative farming may refer to several different modifications of individual and group tenure. In some types land is retained in individual tenure although certain farm operations are conducted with co-operatively owned equipment. In others the land is pooled and cultivated as a unit and returns divided in accordance with the contribution of the individual.

Dantwala[113] after surveying the magnitude of the problem in countries where there is heavy population pressure on the land concludes that it would "be impossible to rehabilitate these millions on [an] individualist basis." After evaluating the alternatives open for removing resource inefficiencies due to conditions of tenure, he proposes:

> The picture of land ownership as it would emerge . . . would be: (i) owner-operation on economic units, and (ii) cooperative ownership and management for the subeconomic.

This viewpoint explains why the "Government of India regards co-operative farming as an important objective," as reported by the United Nations Department of Economic Affairs.[114] The Indian government in its reply to the United Nations questionnaire outlined its position:

> The organization of co-operative farming societies has been receiving increasing attention in recent years largely owing to the need for rationalizing agriculture and increasing agricultural production, and also for overcoming the handicaps resulting from the existence of small and fragmented farms. Different

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112. Jacoby, Inter-Relationship between Agrarian Reform and Agricultural Development, p. 13.

113. Dantwala, op. cit. (unpaged).

114. United Nations Department of Economic Affairs, Progress in Land Reform, p. 246.

> types of farming co-operatives are organized in different parts of the country according to local needs, local enthusiasm and co-operative spirit and availability of trained personnel for running such a complicated organization. Generally four types of co-operative farming societies can be distinguished:
> (i) Co-operative Better Farming Societies . . .
> (ii) Co-operative tenant farming . . .
> (iii) Co-operative joint farming . . .
> (iv) Co-operative collective farming . . .

Despite the importance attached to co-operative farming, however, relatively little progress seems to have been made; in 1951 the government reported only 155,000 acres in the whole of India included in any of these four forms.

In general, the United Nations Department of Economic Affairs[115] reports, in less developed countries there "has been a . . . vigorous interest in co-operative farming in recent years." Various measures are reported from the Belgian Congo, the Sudan (in addition to the Geziera scheme), Formosa, Israel, and Pakistan.

Mexican ejido holdings. A long-established form of communal tenure is the Mexican ejido. Before the Spanish established control over Mexico the landholding village was the typical unit of tenure. However, under Spanish and later under independent rule large haciendas became established, and as late as 1923, 97 per cent of all the people in agriculture owned no land while less than 2 per cent of the haciendas comprised 58 per cent of the cultivated area. The reform growing out of the revolution of 1910 decreed the ejido to be the solution to the agrarian problems. This form of tenure was established under Article 27 of the Constitution of 1917. The program was slow in being put into operation, but in the

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115. Ibid., p. 244.

period between 1922 and 1945 nearly half of the cultivated acreage of the nation was transferred to ejidos. Nearly two-thirds of the people engaged in agriculture now work on ejidos.

Two kinds of ejido organization exist, those in which individuals are assigned plots of ground which they cultivate individually, and those which are collectively operated where the land is owned and worked jointly. Some 86 per cent of the total number of ejidos are of the individual type, most of the rest being collective with a few mixed. The ejido may not alienate the land. It is governed by an assembly of all the cultivating members who elect an executive committee which transacts most of the business. An ingenious innovation, however, comes in the provision that, while the majority of the cultivators elects the executive committee, unless the vote is unanimous, the minority elects a vigilance committee charged with the duty of checking up on the executive committee.

There can be little doubt of the effectiveness of the reform in transferring ownership of land from large landowners to the cultivators, Whetten[116] concludes. The effect on production is more difficult to assess, in part owing to a lack of production data from the period before the revolution. However, there is no doubt that while some ejidos are operating with efficiency, most of them are operated on a subsistence basis, and "the devising of effective methods of stimulating efficient agricultural production on the ejidos is one of Mexico's most serious and urgent problems." For one thing, the earlier allotments under the system were too small. For another, there is the constant problem of introducing

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116. Whetten, op. cit., p. 566.

techniques which will increase productivity, and of providing the credit necessary to adopt the new techniques. But, despite the difficulties of evaluating the effects of the new system on production, Whetten feels "there appears ample evidence that total agricultural production has increased since the Revolution." Also, various indicators suggest that the profits from agriculture are "being distributed more widely among the local inhabitants instead of being spent in European capitals" by landlords.

However successful the ejido system may have been in Mexico, more recent land redistribution programs in other Latin American countries have not followed its pattern.

Puerto Rican proportional profit farms. The Puerto Rican proportional profit farms are authorized under the Land Law of Puerto Rico of April, 1941. The Land Authority established under this law is empowered to lease from 100 to 500 acres of land to persons with experience in agricultural management. It is explicitly designed to "combine efficiency with wider distribution of profits."[117] These large farming units hire labor at wages set through a collective bargaining process, and, in addition, the labor is entitled to a share of the profits. The land leased to proportional profit farms is principally sugar cane land expropriated under the 500 acre limitation. The total area represents some 10 per cent of the cane land on the island.

The Puerto Rican proportional profit farm, the United Nations

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117. Descartes, op. cit., p. 144.

Department of Economic Affairs[118] found to be:

> . . . the only example reported of a measure of land reform carried out in a plantation type of economy, where cultivation is intensive and population density high, and where there is a high degree of concentration of ownership of land.

The proportional profit farm, or some other form of communal tenure which can harness the advantages of efficient, large-scale plantation operation, would seem to have wide application in many of the underdeveloped regions of the world faced with the problem of unrest and social injustice because of the concentration of land ownership. Some such system would enable these areas to overcome the resource inefficiencies involved in unequal distribution of ownership without simultaneously creating even greater inefficiencies through dividing land into uneconomic holdings.

Group tenure to overcome fragmentation. A particularly interesting experiment in communal tenure which seems to be successfully meeting the problems of resource inefficiencies which prevent economic development is the Gezira Scheme in the southern Sudan. In this instance some 1 million acres between the Blue and White Niles were found to be irrigable by means of a dam on the Blue Nile, promising a great increase in productivity. The land, however, was held by local inhabitants under Islamic law, and rights were hopelessly fragmented. The situation was solved, therefore, by allowing the government to lease all land in the area from the right owners. The holdings were then rationalized in order that the irrigation water could be distributed and used effectively. These

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118. United Nations Department of Economic Affairs, Progress in Land Reform, p. 86.

rationalized holdings were in turn leased to the owners of rights in the area to be irrigated, under conditions of extreme security. Resource inefficiencies engendered by conditions of tenure were thus corrected and an increase in production realized through the communal tenure form.[119]

Collateral considerations affecting choice of remedial alternatives. The choice between the three patterns of remedial alternatives to overcome resource inefficiencies engendered by uncertainty arising from conditions of tenure may be largely determined by noneconomic considerations in various underdeveloped countries. However, a traditional viewpoint or social tradition should not be the basis for eliminating one pattern or another from the conceptual analysis. "Much may be lost by over-squeamishness on the subject of existing rights," Liversage[120] warns. Too much importance attached to individual ownership per se, for instance, may cause the individual making the conceptual analysis to fail to make a proper evaluation of the possibility of modifying rights along the lines of one of the patterns of remedial alternatives which would lead to increased security of tenant expectations or to group tenure. The earlier concept of "land reform" too often was limited entirely to means of reducing uncertainty by remedial alternatives which promoted owner-occupiership. Other patterns of remedial alternatives may be more effective in reducing resource inefficiencies in some situations.

It may be mentioned that with suitable compensation, the redistribution of tenure rights under any of the patterns of remedial alternatives

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119. Tothill, op. cit., 974 pp.

120. Liversage, op. cit., p. 129.

outlined above can be wholly justified on the welfare economics criterion of bettering the position of one person without injuring the position of anyone else.

Retention of flexibility. An important consideration when framing an agrarian reform to overcome uncertainties due to tenure is that of retaining flexibility within the tenure system. "The capacity of a tenure system to adapt itself to new economic and technical developments is essential for agricultural progress," Jacoby[121] insists.

The necessity for flexibility may lead to provision within any one nation for remedial alternatives which draw from more than one pattern of emphasis. For example, if a nation should choose to lay primary emphasis on the promotion of owner-operatorship to overcome tenure uncertainty, it may still wish to retain some provision for a limited amount of tenancy. In Japan, for instance, cultivators who do not wish to farm all their lands may lease part to other farmers.[122] This might occur in instances of illness, death, etc.

Difficulty of assuring owner-occupiers will meet social ends-in-view. A suggestion to overcome resource inefficiencies found where tenancy is widespread by promoting owner-occupiership may arise from an emotional preference for ownership and may perhaps ignore some of the economic and social shortcomings of owner-occupiership which might influence the choice between patterns of remedial alternatives.

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121. Jacoby, Inter-Relationship between Agrarian Reform and Agricultural Development, p. 11.

122. Hewes, op. cit., p. 74.

Thelwell[123] has outlined some of these shortcomings of owner-occupiership from the standpoint of society:

1. Individual ownership creates an independence which may result in "an attitude of indifference" to conservation of land resources "or even in the abuse of the land."
2. Individual ownership tends to encourage speculation in land and rapid transfer of property from one owner to another.
3. Individual ownership provides the opportunity for "unrestricted mortgage which encumbers the land with indebtedness."
4. Individual ownership "frequently results in excessive subdivision and fragmentation of the land."
5. Individual ownership permits control of land by persons who make "no effort to develop their land for agricultural, residential, or social purposes."
6. Individual ownership permits the existence of "too great a measure of inelasticity in respect of size of holding, regardless of the capacity of the owner to make the fullest use of it in the interests of the community."

Suitable regulatory provisions in an agrarian reform program which promote owner-occupiership can reduce the effects of these social objections to individual ownership, but in areas where enforcement of such regulations might be difficult or information concerning practices which are in the interests of society difficult to disseminate, a pattern of promoting group

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123. Arthur Thelwell, "Comparison of Leasehold and Freehold Systems of Land Tenure," in Caribbean Commission, Caribbean Land Tenure Symposium (Washington: Caribbean Commission, 1946), pp. 59-71.

tenure or perhaps increasing the security of tenant expectations might be preferable.

Difficulties of tenancy regulation in underdeveloped areas. Effective adjustments to increase the security of tenant expectations of the sort outlined above may be possible only where there is a compliance mechanism such that landlords and tenants both are willing to abide by the provisions of the law. In many underdeveloped nations such a compliance mechanism does not exist. In its absence, either the pattern of remedial alternatives which promotes owner-occupiership or group tenure may be preferable.

Generation upon generation of exploitation on the part of moneylenders and landlords mitigate against effective adjustments to increase the security of tenant expectations. A long history of oppression has embedded in the cultivator a deep-seated desire for land ownership which is much more than just economic in its extent. Many are more than willing to take a lower return in exchange for the enhanced prestige and status that come with ownership, even if they could be convinced of their security under an adjusted tenancy system.

The drawbacks to attempting to adjust a tenancy system to eliminate resource inefficiencies are particularly formidable in areas where there is heavy population pressure on agricultural land. This point is well stated by the United Nations Department of Economic Affairs:[124]

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124. United Nations Department of Economic Affairs, Progress in Land Reform, p. 126.

> As a result of the scarcity of farm land [resulting from pressure on the land], its right of use is highly valued in terms of money and labour. Maldistribution of population also accentuates this effect. In these conditions, even the most comprehensive legislation to control conditions of tenancy may be ineffective, unless the bargaining power of the tenant can be improved; this is difficult to achieve while opportunities for employment in occupations other than agriculture remain limited. So long as the demand for land is so greatly in excess of the supply, legislation to reduce rents or to prevent eviction of tenants will be difficult to enforce.

With the bargaining position of the landlord so strong, even if the state were able to enforce provisions of the law, cultivators might well fear to bring forward complaints for fear of reprisal. Even in such a nation as the Netherlands, Scheer[125] points out that one of the serious weaknesses of tenancy legislation is "the fear of a number of the tenants to request aid from the Land Chamber, against the will of the owner." It will be appreciated this problem would be much greater in underdeveloped nations where evasion of the law would be easier. Also underdeveloped nations, almost by definition, tend to have poorly developed administrative systems meaning any widespread local police administration may be difficult to make effective.

Johns,[126] recognizing the difficulties of regulating tenancy conditions to promote the most efficient utilization of resources, suggests one means to reduce tenant uncertainties would be for the state to purchase all land and to become the sole landowner in the society. Land would then be leased to individual operators. Such a solution in part is being attempted by Pakistan where in certain areas the state is acquiring land and

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125. Scheer, op. cit., p. 6.

126. Johns, op. cit., p. 89.

leasing it to individual cultivators. These leases are permanent and heritable, giving many of the advantages of ownership, but overcoming some of the objections to outright ownership. The government of Pakistan describes this as "partial nationalisation of land."[127]

Social and physical factors favoring group tenure. Two broad sets of conditions may influence the choice of a pattern of remedial alternatives in favor of group tenure.

The first may be the tradition of property ownership which exists in the area. In many countries in the West, the concept of individual property ownership is so universal that any other form is almost unthinkable and felt to be revolutionary and radical. In many areas of Asia, the idea of individual ownership is equally firmly entrenched. Yet in vast areas of the underdeveloped world communal tenure has a long history of success. In many parts of Africa, individual tenure was unknown until Western penetration introduced it and began a process of commercialization. In the more primitive systems communal tenure involves each individual cultivating the soil or grazing his livestock where he will, although not infringing upon the equal rights of other members of the same community.[128]

In other areas of the world some common community ideal--as, for instance, Zionism in Israel--may make communal tenure practicable.

A second group of factors suggesting communal tenure to increase the efficiency of resource use is the physical, topographical, cultivation, or demographic conditions which exist in many underdeveloped areas. The

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127. United Nations Department of Economic Affairs, op. cit., p. 60.

128. Liversage, op. cit., p. 2.

United Nations Department of Economic Affairs[129] comments:

> . . . in some under-developed countries with arid or tropical climates, natural conditions are so highly unfavourable that it is difficult to see how they can be brought under control by an economy based on small-scale, individualist farming . . .

Recognizing the necessity to adapt large scale farming techniques in some areas if productivity is not to fall and living standards are to rise during an agrarian reform, the Department suggests:[130]

> Where the scale of farming operations must perforce be large, it will be essential to find new forms of social organization capable of permitting a rise in the living standards of those employed. . . . Such forms have been developed in several countries, designed to secure the benefit of large-scale production, expert technical advice and large-scale marketing, and at the same time change the agrarian structure.

In probably no other region of the world is the concept of individual tenure of agricultural land so firmly held as in the United States. Yet even in this country, conditions of topography and climate have given rise to an important form of collective tenure. The Taylor Grazing Act, passed in 1934, enables groups of livestock farmers to lease or purchase grazing lands, to regulate and control the use of district lands and to construct improvements for conservation and better land use, and to allocate grazing privileges to members and nonmembers.[131] Renne[132] comments that "this

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129. United Nations Department of Economic Affairs, Land Reform, Defects in Agrarian Structure as Obstacles to Economic Development, p. 79.

130. Ibid.

131. R. R. Renne, "Range Land Problems and Policies," in John F. Timmons and William G. Murray (eds.), Land Problems and Policies (Ames: The Iowa State College Press, 1950), pp. 105-134.

132. R. R. Renne, "The Flexibility of Land Tenure, Capital, and Credit Systems to Meet Technical, Economic, and Social Developments," p. 61.

form of . . . collective tenure has worked out satisfactorily in many of our western range areas."

Many of the other ends-in-view sought through individual tenure may be just as effectively met through some communal form. For example, the security of the individual may be just as great under a communal tenure as under individual tenure. In fact, communal tenure may be used to overcome conditions of individual insecurity which exist under individual tenure where holdings are uneconomic or tenancy conditions engender uncertainties.

Effects of redistribution programs on agricultural production. Emperical evidence of the effects of transfer programs on agricultural output is limited and difficult to analyze. In general optimism seems to outweigh empiricism.

Opinion is agreed that the effects of redistribution can be favorable only if the proper ancillary activities are undertaken. Jacoby[133] suggests the effects of transfer can be evaluated only in the light of five considerations: (1) whether land was cultivated inefficiently before the transfer; (2) whether redistribution will be accompanied by simultaneous work of improvement; (3) whether the intended redistribution will raise the level of living of the farmer; (4) whether new holdings are of economic size; and (5) what ancillary services and social overhead capital will be provided.

Evidence from the widespread transfers in eastern Europe after World War I is confused and is difficult to separate from other factors.

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133. Jacoby, Inter-Relationship between Agrarian Reform and Agricultural Development, p. 38.

Mitrany,[134] writing of the experience in Romania, reports:

> Production in the new provinces has certainly gone down, but how great a share circumstances unconnected with the reform may have had in bringing this about will appear in discussing official policy. The slow execution of the reform would certainly seem to be responsible for a transitory decline of the cultivated area in Transylvania and of its output . . .
>
> The only conclusion emerging with any clarity from all these facts and arguments is the unhelpful one that the problem of the reform's effect on the agriculture . . . bristles with complexities.

Whetten[135] admits that data "are unavailable to provide a decisive and conclusive answer" to the question of the effect of transfer to ejido farms of private agricultural land. Data do not seem to be available to analyze the redistribution programs carried out since World War II, although authors note an improvement in incentives on Formosa[136] and in Japan.[137]

An important consideration in attempting to anticipate the effect a transfer measure will have on agricultural production is the effect it has on the pattern of culture. The Asiatic reforms in Japan, Formosa, India, and Pakistan, for instance, do not change the pattern of production when ownership rights are transferred. Thus it may be expected little immediate change in agricultural output will result, although it may reasonably be expected that resource inefficiencies will be reduced and production made more efficient over a period of years. In all events, it is to be expected

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134. David Mitrany, The Land and the Peasant in Romania (London: Oxford University Press, 1930), p. 331.

135. Whetten, op. cit., p. 243.

136. Albert Ravenholt, "Our Opportunity in Formosa," The Reporter, Vol. 7, No. 12 (December 12, 1952), pp. 15-17.

137. Hewes, op. cit., p. 94.

no reduction of output will occur, providing the program is carried out with reasonable speed without giving rise to uncertainties about the program itself.

At the other extreme, proposals to split agricultural enterprises operated on a large scale into small holdings may have a serious effect on agricultural output. For this reason, various co-operative forms of tenure, such as the Puerto Rican proportional profit farm, may be preferable to transfer to individual cultivators. One of the complicating factors in the analysis of the effects of the transfers in eastern Europe after World War I was the fact the pattern of culture was altered. Large tracts formerly in wheat in Romania, for instance, were transferred to individual cultivators in the form of small holdings. The new owners lacked management skill, and grain production fell. Other factors contributed, however. Farmers increased their own consumption, wheat prices were artificially low, and livestock enterprises were increased.[138]

In general it may reasonably be anticipated that redistribution programs which break up efficiently operated large estates, such as sugar, banana, and rubber plantations, will reduce output, while transfer programs which break up extensively operated estates into more intensively cultivated individual farms would increase the total agricultural production.[139]

Effects of tenure forms on social conditions. Jacoby[140] finds a

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138. Mitrany, op. cit., p. 284 ff.

139. Jacoby, Inter-Relationship between Agrarian Reform and Agricultural Development, p. 39.

140. Jacoby, Agrarian Unrest in Southeast Asia, p. 86 ff.

direct relationship between the form and conditions of land tenure and social and moral standards which leads him to prefer owner-occupiership in Asiatic nations. Noting that Burma has "proportionately the highest rate of murders for which accurate statistics are available," he points out that the Tharrawaddy region of south Burma is "noted as a center of crime, whereas the noncommercialized Shan states and frontier area are little troubled by it." He concludes:

> The colonizing of Lower Burma gradually dissolved the village community, with its fixed moral standards, and replaced it by a migrating tenant class. The tenant in Lower Burma--in contrast . . . with the tenants in Upper Burma . . . --is no longer in contact with his native community and is thus deprived of its controlling influence on his social behavior. Isolated from the social order, he has lost the normal restraints which mark life in a decent community.

Reducing high fixed costs to the operator

One important class of resource inefficiencies occurs when unduly high fixed costs--principally rents--face operators.

High fixed costs to the operator in the framework of the necessary conditions for economic development. In areas where there is heavy population pressure on the land, landlords may be in a position to get a level of rent for their leased land which is higher than the marginal value product of the resources which they contribute. This would violate the condition for economic development that factor rewards be in accordance with productivity. The high fixed cost to the tenant operator skews the allocation of resources, since the tenant no longer has the incentive to move toward the optimum enterprise combination for the farm firm as a whole. This in turn will lead to reduced efficiency of labor, and to an allocation of capital in a manner which does not result in the greatest

efficiency, considering the firm as a whole. It may also result in a reduced rate of internal savings, since cultivators are not assured of a return in accordance with their contribution and may have any surplus over operating costs transferred away from them to the landlord. It is probable that a high fixed cost to the operator will result in exploitive cultivation practices.

Even if seemingly exorbitant levels of rent can be shown to be in accord with the marginal value product of the land in areas where population pressure is heavy and alternative opportunities limited, measures of agrarian reform co-ordinated with measures to promote over-all economic development can help relieve the congestion and thus drive up the marginal value product of labor relative to land and other capital.

These same conditions, either heavy population pressure or few alternative opportunities, or both, engender resource inefficiencies by driving the market price for land to excessively high levels through the operation of heavy demand on a limited supply. Owner-operators who buy land and attempt to pay back mortgages reflecting these high prices are faced with a situation in which they are likely to receive less than their proportionate share of returns for the resources they have contributed. (Price fluctuations may also have this same effect, as was true in the United States during the depression, but are not considered in the present discussion.)

In both the instances of high rent and high amortization payments, there is an arbitrary transfer of income either from the operator to the landlord in the case of tenancy, or to the seller in the case of transfer of ownership rights if the payment is in excess of the marginal value product. This would violate the necessary condition relating to distribution of

income and be an obstacle to achieving economic development.

Present situation in underdeveloped countries with respect to high fixed costs to the operator. A picture of high levels of rent is given by the literature. In India before the recent reforms, the most common division of the crop was half to the landlord and half to the cultivator who provided every factor of production except the land.[141] Similar divisions are reported in Egypt[142] and South America.[143]

Many authors assert these levels are indeed above the marginal value product of the land. Bate[144] cites rent levels formerly as high as 55 to 75 per cent on Formosa and concludes the rents were "far above the level justified by the productivity of the soil." In Egypt, Ezzat[145] reports an investigation revealed the rents paid by tenants were in "some cases higher than the net output obtained from the land operated by the owner."

Throughout the underdeveloped areas of the world where population pressure is high, rent control and reduction programs have been common in recent years. Most nations which have managed to establish effective tenancy controls to reduce uncertainty have also established rent control

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141. United Nations Department of Economic Affairs, Land Reform, Defects in Agrarian Structure as Obstacles to Economic Development, p. 15.

142. Ezzat, op. cit. (unpaged).

143. Armando Tamayo, Antonio Manzano, and George W. Hill, "Social Welfare and Land Tenure in the Agrarian Reform Program of Venezuela," in Conference on World Land Tenure Problems, Proceedings, Part 3 (Madison, Wisconsin, October 8 to November 20, 1951), unpaged.

144. H. Maclear Bate, Report from Formosa (New York: E. P. Dutton & Co., Inc., 1952), p. 165.

145. Ezzat, op. cit. (unpaged).

measures. The United Nations Department of Economic Affairs[146] points out that rent control and related tenant security measures in India and Pakistan have been among the "most important" reforms since World War II.

Remedial alternatives

Rent reduction and control. Of course, one of the obvious remedial measures indicated by the theoretical framework is rent reduction and control. Perhaps the best known of recent programs of this nature is that carried out on Formosa. In 1949 the legislature declared that "no farm rent, payable by the tenant to the land-owners, may exceed 37.5 per cent of the land's principal produce."[147] This resulted in a considerable rent reduction--an average of 16 per cent, Han estimates. Further legislation defined the legal rent to be calculated not on the yield of the farm in question, but on the average yield for the area in order to retain an incentive to the cultivator to improve the efficiency of his cultivation. Of the added income to tenants resulting from the rent reduction nearly a fourth is spent on added food consumption, surveys taken in 1949 and 1950 indicated. However, Han comments:[148]

> While a good proportion of the tenant farmers' extra income is spent on food consumption, the greater part--65.55 per cent in the first half of 1949, 69.28 per cent in the second half of 1949, and 71.56 per cent in the first half of 1950--is spent on the purchase of fertilizers, cattle, farm implements and similar capital investments. Now that rent is being fixed according to the standard output, profits derived from new capital investments will accrue entirely to the tenants.

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146. United Nations Department of Economic Affairs, Progress in Land Reform, p. 148.

147. Han, op. cit., p. 88.

148. Ibid., p. 90.

The effect of the reform seems to have been immediate and widespread. Bate[149] asserts "overemphasis of the repercussions of the reform is impossible.

In other areas of Asia rent reduction programs are being carried out with varying results. In India state measures have been enacted to establish rent ceilings and prevent onerous conditions, as, for instance, compulsory sales of produce to the landlord or personal service. In Pakistan provincial governments have introduced legislation setting ceilings on rents and abolishing personal service to the landlord as a form of rent payment. In the Punjab the tenant must receive at least 60 per cent of the return from the holding, but he must bear a proportionate share of the tax load. In the Philippines, in the absence of a written agreement, the law sets a fixed rent for rice land cultivated by sharecroppers. The rent level varies with the productivity of the land, a first approximation to changing the rent to accord with the marginal value productivity of land. If the return for seed is 40 to 1, land and labor each is considered to have contributed 30 per cent to production. If the output is less than 40 to 1, the share of the produce which goes to land is reduced to 25 per cent. The remaining 40 to 45 per cent of the output is divided between the landlord and the tenant in accordance with their contribution to farm production. If the landlord furnished draft animals and farm implements and shares on an equal basis with the tenant the expenses of planting and cultivation, as is the usual practice, the crop is divided equally.[150]

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149. Bate, op. cit., p. 168.

150. United Nations Department of Economic Affairs, Progress in Land Reform, p. 142 ff.

This arrangement, to the extent it is carried out, would go a long way toward meeting the necessary condition for economic development relating to factor rewards, and to meeting Hurlburt's[151] incentive conditions necessary to encourage optimum allocation of the combined resources of the landlord and the tenant.

In Mexico the tenant must receive 40 per cent of the crop or its value for his labor alone.[152] In Egypt, the 1952 agrarian reform law limited the rent to not more than seven times the basic tax assessed on the land.[153]

It should be pointed out that programs which succeed in reducing rental levels may in effect expropriate part of the capital of the landlords. Where levels are above the marginal value product of the resources leased, this may not result in undue social injustice, and the widespread benefits in the form of increased cultivator income and greater efficiency of resource use may be considered by society as outweighing the loss to the landlords.

In formulating a rent reduction and control program, one of the most difficult problems is the "fair" level of rental. Even in such an economically developed nation as the Netherlands where production data are much more accurate and easily obtained than in underdeveloped nations, Scheer[154] points out that the determination of a "fair" rent has been very unsatisfactorily solved. Lacking a more adequate basis, underdeveloped

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151. Hurlburt, op. cit., p. 86.

152. United Nations Department of Economic Affairs, Progress in Land Reform, p. 142 ff.

153. Ezzat, op. cit. (unpaged).

154. Scheer, op. cit. (unpaged).

countries which have reduced rent levels have followed some "rule of thumb," the empirical basis for which is generally difficult to determine.

In most underdeveloped areas, the rent, as suggested above, is fixed in terms of the major crop either as a fixed percentage or as an amount based on a standard yield. Provisions such as these will automatically tend to adjust the rent levels to fluctuations in price and climatic conditions. However, when rents are fixed in cash in order to create conditions under which the resources of the farm firm are likely to be used with the greatest efficiency, provision for adjustment in the cash rents to reflect price levels and climatic conditions are desirable. In Japan, where rent levels are controlled, if the yield is reduced to exceptionally low levels, the tenant may secure a reduction of the rent levels. Similarly, in times of price change, the government may revise the maximum rates of rent.[155] In the Netherlands either the landlord or the tenant may request an adjustment of rent levels at intervals of 3 years and compulsory arbitration is provided for if the two parties do not agree.[156] Similar arrangements exist in other European nations.

As would be expected, efforts to control rent levels have often met widespread evasion on the part of landlords. On Formosa Tang[157] reported landlords attempted to evade rent reduction measures. They protested the land classification upon which the standard rents were based. They forced

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155. United Nations Department of Economic Affairs, Progress in Land Reform, p. 145.

156. Scheer, op. cit. (unpaged).

157. Tang, op. cit. (unpaged).

tenants to terminate leases but to report the termination as voluntary. Landlords would make an agreement with a tenant to pretend he was a hired laborer, making the contract fall outside the provisions of the rent reduction legislation. Sometimes the tenant would act as a dummy middleman in land transactions to evade price ceilings. The government instituted a "rigid supervision" program in order to prevent these evasions. In India the machinery of revenue collection is used to enforce the rent control, and local revenue officers are empowered to fix rents in accordance with the law.[158]

Reduction of pressure on land as capital investment. Another means of reducing high fixed costs to the operator is by reducing the desirability of capital investment in land. Obviously, this cannot be solved within the agrarian sector of the economy alone. Alternative opportunities are needed in order that individuals and capital may move out of agriculture. Without such opportunities, persons who must earn their living in agriculture have no choice but to bid up the prices for land resources and accept a low return on their own resources. Ezzat[159] has been cited as reporting that the area of land an American farm worker could purchase for about 10 day's wages in 1945 "claimed a price equal to about 20 years of the average Egyptian worker's wages." Thus, in the absence of alternative opportunity, the marginal value product of land may perhaps be driven to levels which appear to be excessive by the standards

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158. United Nations Department of Economic Affairs, Progress in Land Reform, p. 143.

159. Ezzat, op. cit. (unpaged).

of a well-developed Western economy.

Only general programs of economic development can basically solve these pressing problems. But transitional programs to encourage economic development by encouraging landlords to invest their capital in nonagricultural enterprises can be a part of an agrarian reform program. Such measures, short of redistribution, might include measures to increase the security of tenant expectations, progressive land taxes, and heavy death duties. Several are discussed in more detail elsewhere.

Reducing noncontiguous tracts

One widespread cause of resource inefficiencies in agriculture is found where individual holdings consist of many noncontiguous tracts of land.

In this study, noncontiguous tracts will be considered as a generic term, covering all instances where a holding cultivated as a single unit has more than one tract of land, and where the separate tracts of land are noncontiguous. This situation will also be referred to as fragmentation. Subdivision will refer to the process in which a former unit of land ownership is divided into two or more new units of ownership. The common example is the division of an estate upon the death of an owner. Subdivision may or may not result in fragmentation; it is possible that subdivision of a fragmented holding might reduce the amount of fragmentation by transferring ownership rights of each separate tract to a different individual. Subdivision resulting in fragmentation is sometimes referred to as parcellization. The process of readjusting ownership rights in order that the number of parcels in an individual holding is reduced will be termed consolidation. It is not an essential feature of consolidation

that the number of owners be reduced. The working party on land consolidation procedures of the Conference on World Land Tenure Problems[160] supported this viewpoint, and decided to restrict the use of the term in its discussions to this meaning:

> Consolidation tries to offset the ill effects of fragmentation on agricultural productivity, thus affecting not only the income of the individual farmer, but also the national output of farm products in any given state. A consolidation scheme usually deals with the regrouping of holdings among the existing farmers. At the same time in most countries the road, irrigation, and drainage systems are overhauled and brought up to standard. Sometimes some reclamation work is done on land of poor quality.

Noncontiguous tracts within the framework of the necessary conditions for economic development. The principal economic effect of fragmentation is to reduce the efficiency of labor. Where the individual cultivator farms a number of different tracts a large percentage of his total working time may be lost in traveling from parcel to parcel within one working day. A number of separate plots may also result in wasted time and extra expense in moving seed, animals, and manure to various parcels, and returning crops from the field to the farmstead. Individual parcels must be individually fenced, or else (as is often the case) left open. If fenced, capital costs are relatively high, perhaps taking capital which the cultivator under a more rational land pattern could use more effectively to increase production. Depredations of animals, birds, and even humans are more difficult to control.[161] The choices of which crops to grow are

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160. "Land Consolidation Procedures: Comparative Analysis" Report of Working Party No. 12 , in Conference on World Land Tenure Problems, Proceedings, Part 3 (Madison, Wisconsin, October 8 to November 20, 1951), unpaged.

161. Bernard O. Binns, The Consolidation of Fragmented Agricultural Holdings (Washington: Food and Agriculture Organization of the United Nations, 1950), p. 15 ff.

limited by the consideration that each landholder must have access to his holding, reducing the over-all efficiency of the cultivator's labor and capital usage. A similar effect is felt because livestock enterprises are limited by the small, unfenced parcels. The efficiency of production is reduced by the difficulties of supervising the growing crops.[162] Small and numerous parcels which often are irregular in shape may prevent the use of machinery which would increase efficiency if the tracts were larger and fields rationalized.

Land improvement and maintenance measures are much more difficult under conditions of excessive fragmentation. Even the simplest drainage plan may require the co-operation of a number of different neighbors. Irrigation, whether private or through some government scheme, is equally difficult. The standards of pest and weed control are necessarily that of the least-cared-for plot in the area, and since some parcels may be too small to justify much care on the part of their owners, poor standards may be common. A rational individual conservation plan involving such practices as crop rotation and contour cultivation may be quite impractical under conditions of excessive fragmentation. Lastly, even in areas of heavy population pressure on the land, the presence of fragmentation may reduce efficiency through actual waste of land by the existence of parcels too small to be cultivated even under the extreme conditions of poverty and land hunger likely to exist.

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162. Euthymios Papageorgiou, "Fragmentation of Land Holdings and Measures for Consolidation in Greece," in Conference on World Land Tenure Problems, Proceedings, Part 1 (Madison, Wisconsin, October 8 to November 20, 1951), unpaged.

Present situation in underdeveloped countries with regard to noncontiguous tracts. The phenomenon of noncontiguous tracts exists in varying degrees in Europe, the Middle East, and throughout Asia. It is not associated with any single form of tenure, but may be found both where owner-occupiership is the common form of landholding and where tenancy is common. It is more commonly found in the long-settled areas of the Old World than in the newer portions of the Western hemisphere, though it is not unknown in the Americas. It is most often found in areas where population pressure on land is high and where alternative opportunities are less plentiful, although it is by no means limited to such areas.

In Lebanon, Alamuddin[163] cites a village where the average number of parcels per holding is 56 and the average size of each holding only some 0.15 acre. Papageorgiou[164] reports in the region of Attica and the Peloponnese in Greece some holdings consist of from 50 to 100 parcels, and the parcels have an area of from one-eighth to one-fourth acre. "The transport from one plot to another and from the plots to the residence or to the buildings of the farmer takes one or two hours of time." In an area of West Germany where consolidation is being carried out, Welty[165] reports one farm of 30 acres which consisted of 220 parcels. A trip from the farmer's home to each parcel and back involved a distance of 300 miles.

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163. Najib Alamuddin, "Practical Proposals for the Solution of Land Tenure Problems in Lebanon," in Conference on World Land Tenure Problems, Proceedings, Part 1 (Madison, Wisconsin, October 8 to November 20, 1951), unpaged.

164. Papageorgiou, op. cit. (unpaged).

165. F. Welty, "Land Consolidation in Heftrich, West Germany," Foreign Agriculture, Vol. 16, No. 1 (January, 1952), pp. 22-23.

The loss of land suitable for cultivation seems to be of importance in some underdeveloped areas. In the Punjab, for instance, the results of early consolidation measures indicate that "5 per cent of the land which would normally be cultivated is lying useless owing to fragmentation being so excessive as to prevent any agricultural operations."[166] A further 1 per cent is lost in boundaries.

Resource inefficiencies engendered by noncontiguous tracts may sometimes be one of the most pressing problems in an underdeveloped nation. According to the United Nations Department of Economic Affairs:[167]

> In Haiti, excessive fragmentation is one of the gravest defects of the agrarian structure. . . . By reason of the extreme congestion on the land it is a defect very difficult to remove. . . . The obstacles to consolidation are . . . the conservatism of the peasant population, ignorance of the benefits to be obtained from it, and the overwhelming demographic factor.

Johnson and Barlowe[168] assert that "in most countries of Europe, and in India, Southeast Asia, and Egypt," consolidation "is of great significance in developing economic farm units and strengthening the rural economy."

Since World War II there has been widespread interest in measures to overcome fragmentation in various underdeveloped areas, although in relation to the problem relatively little progress has been made. In India, consolidation programs to 1952 had affected some 5,358,000 parcels reducing

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166. M. L. Darling, The Punjab Peasant in Prosperity and Debt, quoted in V. Liversage, Land Tenure in the Colonies (Cambridge: Cambridge University Press, 1945), p. 67.

167. United Nations Department of Economic Affairs, Progress in Land Reform, p. 199.

168. Johnson and Barlowe, op. cit., p. 386.

them to approximately 1,043,000 parcels. Goals set for 1955-1956 include consolidation affecting some 11.5 million acres. Measures reported by Pakistan affected nearly half a million acres. In Japan the government has set a goal of some 4.8 million acres to be consolidated by 1957. In other underdeveloped areas, although some interest has been evidenced in Egypt, Lebanon, and Jordan, little action seems to have been taken. In Latin America, the problem does not seem to be serious. On the islands of the Caribbean, although the problem is sometimes serious, little remedial action has been taken.[169]

It is not too difficult to determine the causes for fragmentation. One cause is found in the physical topography of the area and the type of cultivation. In parts of the Far East, for example, individual peasants prefer the main portion of their holdings to be in the rich, easily irrigated bottomlands. But to farm these holdings, they want well-drained small fields on adjoining hillsides to use as a nursery where the danger of untimely flooding is reduced. Similar physical causes exist anywhere that flooding in the early part of a season is a danger. In many areas hill pastures are important in the cultivation scheme (as is the case in Switzerland). Furthermore, in most underdeveloped areas of the world, farmers do not live on their holdings, but rather in villages. When cultivation follows this pattern, it is desirable that the farmer have some land close by the village for crops requiring careful and frequent attention, such as garden crops, tobacco, etc.[170]

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169. United Nations Department of Economic Affairs, Progress in Land Reform, p. 196 ff.

170. Papageorgiou, op. cit.

A group of cultural or social causes of fragmentation may also be found. Binns[171] suggests, for instance, that the three-field system of cultivation in Europe may have been an important direct cause of the original fragmentation which has had its influence on European agriculture down to the 20th century.

However, by far the most important social or cultural cause for fragmentation of agricultural land is the rule of inheritance in the society. In India, for example, the custom of property division among heirs is to allocate to each a proportionate share of every kind of inherited wealth rather than a share of the whole equivalent to this portion.[172] In Europe outside of the British Isles, the custom of equal division of landed property has been universal since the influence of the Napoleonic Code on European legislation. In areas where Mohammedan Law governs succession, equal division of property is practiced. This practice may proceed so far that individual trees will be owned by several different people.[173] Equal division among men and women heirs also tends to increase fragmentation. Usually, while the combination through marriage may check reduction in total size of holdings to some extent, the holdings of man and wife are not contiguous. There is also the problem of women who marry husbands who do not derive their living by cultivation. In areas of Moslem influence it is usually an impractical solution to suggest

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171. Binns, op. cit., p. 12.

172. Liversage, op. cit., p. 66.

173. J. D. Tothill, "The Problem of Land Fractionation," in J. D. Tothill (ed.), Agriculture in the Sudan (London: Oxford University Press, 1948), pp. 210-221.

a change in the inheritance law since such a change would run counter to a religious faith, and other solutions to prevent fragmentation may be necessary.

The attempt to divide land equally among heirs characteristically results in long, narrow strips running against the contour, since the owner wishes to divide his property so that each heir has his proportionate share of different soil types and slopes.

A group of causes for fragmentation may be traced to economic influences.

The right to alienate land obviously would be a condition which would greatly facilitate the progressive fragmentation of agricultural land.[174] Fragmentation is not, however, a necessary result of such a right, nor is fragmentation unknown where this right does not exist. Fragmentation is most likely to occur in those underdeveloped regions where it is a common custom to purchase or sell land to subdivide or add to existing holdings.

In underdeveloped nations, an important cause of fragmentation may be the lack of liquid capital or equivalent credit. In such cases, the only practicable way for an heir to realize his portion of an estate is to claim a parcel of land.[175]

Even if liquid capital were available, often there is no alternative opportunity for the heir to choose. He must therefore accept the land parcel. Binns[176] concludes:

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174. Binns, op. cit., p. 11.

175. Ibid., p. 20.

176. Ibid., p. 19.

> The usual cause of fragmentation--and of excessive subdivision generally--is too great a desire to hold land on the part of too many people. . . . In the most obstinate cases this desire for land arises from a real absence of employment alternative to agriculture . . .

Remedial alternatives

Consolidation. The most direct remedial measure to overcome the effects of noncontiguous tracts is to consolidate scattered parcels into more rational units.

The first step in carrying out a successful consolidation program within the framework of a democratic society is not physical but social--the landowners in the area must be convinced of the value of the program and be willing to support it. The most obstinate obstacles, Binns[177] points out, arise because "farmers are normal human beings with normal human emotions and reactions." Suspicion and jealousy often are contributors to the problem of fragmentation through their effects on division of the estates among heirs. These emotional feelings are important when consolidation is proposed. Some farmers may benefit more from the program than others--"and probably a still larger number will fear that others may do so." There is the inertia and conservatism common to cultivators the world over; there is the sentimental attachment to land cultivated by forefathers; there is the confidence that comes with intimate knowledge of individual fields which would be destroyed in a consolidation program. All these fears and other emotions must be overcome if the consolidation is to be successful.

Education, therefore, becomes very important. The Pakistani

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177. Binns, op. cit., p. 23.

government emphasized this in its reply to the questionnaire of the United Nations Department of Economic Affairs[178] concerning consolidation in the Punjab:

> Attention is drawn to the part which information and education may play in promoting consolidation; personal talks with cultivators and the distribution of leaflets serve to give information on the advantages of consolidation, and may be combined with demonstration by field maps of consolidated villages, showing changes made during consolidation.

In any event, measures for consolidation "demand a high degree of practical understanding and readiness for co-operation" on the part of the farmers. Educational measures will of necessity be adjusted to the specific educational, cultural, and economic conditions of the area to be consolidated.

In view of the emotional obstacles it is obvious that legislation alone cannot be effective. Only to the extent legislation sets a framework for effective local action can it be satisfactory. On the other hand, legislation will almost without exception be a necessary part of any consolidation effort if for no other reason than the fact no matter how much educational effort is made, there will still be recalcitrant farmers whom only compulsory measures can force to co-operate.

In the past, in democratic societies, governmental measures have been aimed at encouraging local action by administrative and technical assistance, by financial support, and by providing compulsory means to deal with recalcitrants in the local community.[179] Of course, any spontaneous effort

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178. United Nations Department of Economic Affairs, Progress in Land Reform, p. 197.

179. Binns, op. cit., p. 25.

aimed at consolidation in local communities should be supported as part of any over-all national program. The general pattern has been for governments to take action only at the request of local groups, and consolidation is carried out only if a sufficient proportion of the land owners supports the program.

Binns[180] reports the actual consolidation is usually carried out by local committees of landholders themselves or by officials with the advice of the landholders. This may take the form of a formal, elected commission, or an ad hoc committee. He continues:

> Except in advanced communities the progress of operations conducted solely by committees of landholders tends to be slow and rather painful, and perhaps the best authority is a joint board of officials and representatives of the landholders under a chairman with judicial experience.

Whatever particular method is determined upon, it is important that landowners involved be given important influence in the actual operations and that individual landowners be given the opportunity to be heard at each successive stage of the program, perhaps through the device of a public inquiry.

In carrying out the actual consolidation program, the first requirement is a survey to establish the ownership and extent of every parcel of land. This in itself may be a tremendous obstacle in underdeveloped areas. On the one hand, in an area such as Haiti, the titles are only vaguely defined and poorly safeguarded. (The problem of insecure titles is discussed in more detail later.) On the other hand, in other underdeveloped areas, such as the Punjab, ownership rights are diffuse, and are tremendously

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180. Ibid., p. 26.

complicated by various leins and mortgages.[181]

Once the ownership and extent is established, the consolidation authorities must attempt to delimit new holdings in some pattern which will enable a more rational production plan to be carried out. Consideration must be given the needs arising out of the climate and topography, as well as the system of cultivation, for parcels of land with different physical characteristics and in different locations.

In most successful democratic schemes, an attempt has been made to insure that each landholder receives a holding after consolidation proportional to his holding before the consolidation. However, the exact valuation of a given holding will obviously vary widely with the conditions of the consolidation. In any event, it is to be expected that the value in terms of productivity of any given individual's holding will be increased by the consolidation process if for no other reason than from the opportunity to institute a more rational cultural program. In addition, new facilities such as irrigation, better drainage, and other land improvement measures may mean new holdings may have considerably increased values, and different parcels of land within the area being consolidated may shift in relative values. Binns[182] points out that "in these circumstances, great flexibility in criteria of value is clearly essential," and continues to suggest the best solution probably is to make valuations "on the advice of and in accordance with the true opinion of the leaders among the local

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181. United Nations Department of Economic Affairs, Land Reform, Defects of Agrarian Structure as Obstacles to Economic Development, p. 13.

182. Binns, op. cit., p. 28.

farmers." In planning the consolidation, provision must be made for new roads and community areas.

Disputes over valuations and allotments under the consolidation program may be expected to occur, and seem best settled on a local level outside the regular court system. This is the procedure followed in Switzerland with good effect.[183] Binns[184] recommends this procedure, but cautions provision should be made for appeal through the regular court system in cases where the consolidation authority is felt to have taken some action not sanctioned by the law.

In making the reallocation of parcels of land, it seems desirable not to include in the general scheme areas planted to perennial crops or where other exceptional improvements have been made unless suitable exchange provisions can be voluntarily arranged. Similarly, buildings and farmsteads may require special consideration.[185] In some consolidation programs, even where it is not intended to increase the average size of holding, there may be tenants or owners who would either prefer to move off the land, or who may be forced out by the consolidation. In underdeveloped areas where alternative opportunities are strictly limited, it is best to avoid this in every possible instance, but in cases where it cannot be sensibly avoided, some provision to re-establish the farmer must be made.

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183. Federal Government of Switzerland, "Consolidation of Land in Switzerland," in Bernard O. Binns, The Consolidation of Fragmented Agricultural Holdings (Washington: Food and Agriculture Organization of the United Nations, 1950), pp. 77-99.

184. Binns, op. cit., p. 30.

185. Ibid., p. 27.

Some consolidation programs, particularly in more advanced nations, aim at creation not only of rational shape, but also of an economic size. This is one of the stated aims of the consolidation taking place in Sweden.[186] However, in most underdeveloped nations this is not feasible, and is outside the province of the present discussion. (A more detailed discussion of efforts to eliminate resource inefficiencies engendered by undersized holdings is taken up elsewhere.)

In most consolidation programs the mere rationalization of parcels and the construction of new roads and other improvements is recognized as being insufficient to reach the desired goal of resource efficiency. Van Rossem,[187] speaking of the Netherlands but relating an impression as valid for underdeveloped areas, reports:

> Our experience has taught us that consolidation of the land does not in itself bring about higher production. Therefore education and extension work necessarily have to go with land consolidation. Never have education and extension services a better chance to tackle the people and their ways of farming [than] they have in consolidated areas.

The exact nature and kind of ancillary services which will be required in different areas depends to a large measure upon the sociological and cultural background of the cultivators in the area.

Although some authorities suggest consolidation can be carried out in underdeveloped areas with relatively little capital expenditure, it seems that a successful consolidation program will require considerable expense

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186. United Nations Department of Economic Affairs, Progress in Land Reform, p. 203.

187. Jan M. Van Rossem, "Aspects of Consolidation Work in the Netherlands," in Conference on World Land Tenure Problems, Proceedings, Part 1 (Madison, Wisconsin, October 8 to November 20, 1951), unpaged.

to the nation. FitzGerald[188] suggests that land consolidation is an aspect of agrarian reform "which does not necessarily require a large initial investment." But a more realistic analysis is that Binns[189] presents to justify his conclusion that consolidation may be expected to involve "considerable expense, especially since the modern tendency is to carry out extensive measures of land improvement as part of the operations." Binns suggests the following six kinds of expenses which may be expected:

1. Compensation for land acquired to effect consolidation.
2. Compensation to allow for a fall in the value of some of the new holdings as compared to that of the old, although such depreciations "will be reduced to a minimum if the consolidation is skillfully carried out."
3. Compensation for displaced farmers, a claim which is "almost irresistible."
4. Cost of "actual public operations" including surveying, construction of roads, "incidental" improvements to the land, provision of communal facilities, and administrative costs.
5. Costs of restoring the agriculture of the consolidated area including moving of buildings and establishment of operation of new holdings.
6. Expenses incurred in larger engineering projects such as drainage, irrigation, or protective works, which while not

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188. Dennis A. FitzGerald, "Land Tenure and Economic Development," Land Economics, Vol. 27, No. 4 (November, 1951), pp. 385-388.

189. Binns, op. cit., p. 32.

"directly connected with the actual consolidation" are "nevertheless integral parts of the whole scheme."

Many of these costs can and should be expected to be repaid by the farmers benefiting from the scheme, particularly the first item involving compensation for land redistributed to new owners. Indeed, in many underdeveloped regions it would seem sensible that some of this be accomplished by means of direct exchange. But many of the costs may have to be borne by the society as part of the costs of agricultural development and may not be recoverable. Where recovery is expected from the farmers benefited, provision should be made for repayment similar to the provisions in transfer schemes discussed earlier. Binns[190] particularly recommends as a "device which has proved successful under careful supervision, even in rather unpromising circumstances" a form of co-operative society which acts as an intermediary between the state and the cultivators, to hold land from which recoveries are due. This has the advantage of collective liability--often successful in underdeveloped areas--and also of being the first step toward co-operatives acting in other areas of agrarian life.

Before embarking on a program to consolidate scattered parcels, it should be recognized that there may be fully rational reasons for moderate fragmentation, and a complete elimination of all plots may not be desirable and would result in less than optimum resource allocation. Most of these justifications for moderate fragmentation arise from the climatic and topographic considerations mentioned earlier.

In areas where consolidation programs have been carried out the

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190. Ibid., p. 38.

effects on agricultural productivity seem to have been marked. In Switzerland,[191] the federal government reported:

> The Division of Agriculture of the Federal Department of National Economy, which has recently conducted an inquiry into the profits of agriculture, remarks that after consolidation the cost of production increases slightly while the gross return improves by about 20 to 23 percent. On the whole, it may be estimated that if all the fragmented holdings in Switzerland were consolidated the cost of agricultural production would be reduced from 15 to 20 percent.

In other nations, accurate figures are scarce, although officials seem to be of the opinion that consolidation in underdeveloped areas would be reflected in substantial increases of the order reported in Switzerland. FitzGerald,[192] for example, suggests that "potential production increases" in underdeveloped areas "are estimated as high as 25 to 30 percent and unit cost decreases from 10 to 15 percent." Alamuddin[193] estimates that in Lebanon in the most badly fragmented areas:

> It is estimated 30 per cent of efficiency is lost . . . 10 per cent because of the distance, 10 per cent due to loss of land, and 10 per cent due to excessive seeding.

The advantages of consolidation are not limited merely to increased agricultural productivity from lands in use. In the Punjab, the reply to the United Nations Department of Economic Affairs[194] questionnaire emphasizes other advantages such as:

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191. The Federal Government of Switzerland, op. cit., p. 91.

192. FitzGerald, op. cit., p. 387.

193. Alamuddin, op. cit. (unpaged).

194. United Nations Department of Economic Affairs, Progress in Land Reform, p. 197.

> . . . the drilling of new wells and the cultivating of land previously uncultivated. During consolidation a number of amenities are provided: for example, room for expansion of village sites and graveyards, provision of circular roads, sites for village schools and playgrounds.

Measures to prevent fragmentation. A consolidation scheme should be followed by measures to prevent a reoccurrence of the process of subdivision and fragmentation. In some areas--particularly western Europe and India--legislation forbids fragmentation of holdings formed under government aegis. This should be supported by other legislation which removes any legal hindrances to the division of estates in some manner other than a proportionate division of different kinds of wealth. In Moslem countries it is unlikely that legislation preventing subdivision would be effective, and in Pakistan the government "relies on . . . education to counteract the continued trend towards fragmentation."[195] (A more detailed discussion of measures to prevent fragmentation is taken up in connection with remedial alternatives to overcome undersized holdings.)

Overcoming undersized holdings

Programs to reduce tenure uncertainties, to reduce high fixed costs, and to consolidate holdings all may fail to remedy one fundamental source of resource inefficiencies: undersized holdings. Of all the agrarian problems in the world today, perhaps none other is so intractable and so difficult to solve. It immediately involves the whole range of economic development problems. Secure tenure, equitable returns to resources, and consolidated holdings can do no more than make the best of a bad situation if holdings are still undersized when the reforms have been completed.

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195. Ibid., p. 198.

In this study undersized or uneconomic holdings are understood to mean holdings which have too little area to support a family at or above the subsistence norm. In many instances, this will be the level of living of workers in alternative nonagricultural occupations. In many underdeveloped areas the level is nearly the minimum subsistence level.

Undersized holdings in the framework of the necessary conditions for economic development. The existence of uneconomic holdings reduces the efficiency of labor, and, failing outside help, almost prevents substantial improvements in labor efficiency since virtually no capital can be saved and operators of such holdings have no funds to secure education. Where undersized holdings are widespread, as is the case in much of Asia, the subsistence norm can hardly be set at a level much above the subsistence minimum. Although the owner-occupier on an undersized holding may have very little insecurity arising from tenure, his marginal productivity is very low--too low to enable him to progress above the subsistence norm of the society. It may be impossible to achieve increased efficiency through a better use of capital when units are too small to apply superior techniques of production and organization.

Maximization of production per unit of area becomes the goal of the cultivator on an undersized holding, not any consideration of relative price levels or maximum output per unit of labor. Under conditions of starvation, the individual will work until the marginal product of his labor is driven to zero and his marginal value product is correspondingly low.

Present situation in underdeveloped countries with regard to undersized holdings. The bitter conditions of undersized holdings are

unfortunately widespread. Levels of living in many agrarian communities are appallingly low--as witnessed by the per capita income figures cited in Figure 1. Vast numbers of people in underdeveloped areas who earn their livings in agriculture live under conditions only barely above the subsistence minimum, and famine is an ever-present danger.

Undersized holdings are most pressing and most likely to exist in those areas of the world where there is a heavy population pressure on the land--India, south Asia, China, Japan, Egypt, and the islands of the Caribbean. Uneconomic holdings of not quite such a severe sort can, however, be found in other areas where great inequality of land ownership exists, such as is not uncommon in South America. In these areas, however, the resource inefficiencies can be traced to lower uses of land than would be most economic as a result of the forms of ownership, and thus are discussed separately.

The problem of uneconomic holdings affects the most people in Asia, where it is the "greatest single obstacle to economic and social progress, and the most difficult to remove."[196]

In India, the United Nations Department of Economic Affairs[197] reports:

> . . . the problem of uneconomic holdings assumes vast proportions. The average size of farms in most states [is] between 4 and 5 acres. It is estimated that an economic holding in India must have a minimum of 5 acres, of which 2.3 acres must be well watered land. Since only about one-third of India's total sown acreage can count on adequate rainfall or irrigation, there are hardly 2 acres of well-watered land available per average holding. Thus even the average acreage of a

196. Ibid., p. 182.

197. United Nations Department of Economic Affairs, Land Reform, Defects in Agrarian Structure as Obstacles to Economic Development, p. 8.

farm holding falls below the subsistence minimum; and a large proportion of holdings fall below the average.

Other figures show the percentage of cultivators with holdings under 2 acres ranges as high as 55.8 per cent in the United Provinces, and the percentage whose holdings are less than 5 acres is 81.2 per cent.[198] Not only are the holdings extremely small, but Dantwala[199] reports they are "rapidly becoming smaller."

In Japan in 1948 Hewes[200] reports 41 per cent of the households cultivated less than 1.2 acres (0.5 cho), while 72 per cent of the households cultivated less than 2.5 acres (1.0 cho). A trend towards a further reduction in size has caused concern among Japanese authorities. In Egypt, Ezzat[201] reports holdings of less than 1 acre account for 71 per cent of the total number of holdings and holdings less than 5 acres account for 94 per cent of the total. On Formosa, in 1939, 25.6 per cent of the families cultivated less than 1.2 acres (0.5 chia) and 72.1 per cent of the families cultivated holdings of 4.8 acres (2 chia) or less.[202] Jacoby[203] reports that average holdings in central Thailand are 10.5 acres (4.25 ha.), 5.6 acres (2.25 ha.) in the south, and 4.3 acres (1.75 ha.) in the

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198. Ibid.

199. Dantwala, op. cit. (unpaged).

200. Hewes, op. cit., p. 86.

201. Ezzat, op. cit. (unpaged).

202. Provincial Government of Taiwan, Department of Agriculture and Forestry, Taiwan Agricultural Yearbook, 1948 Edition (Taipei: Provincial Government of Taiwan, 1949), p. 11.

203. Jacoby, Agrarian Unrest in Southeast Asia, p. 230.

northeast. Thai farmers in good years can normally meet their costs, but there is not much margin and "the situation becomes dismal when a crop fails." On the island of Java, Metcalf[204] reports the average holding is 0.9 acre of irrigated rice field and 1.2 acres of dry field land and garden area. Figures indicate the average size of holding "has been slowly decreasing during the last half century." The peasant is able to support himself and his family on this "dwarf-sized" holding only through double cropping and intensive cultivation.

In the Caribbean, on the island of Haiti, Dartigue and Baker[205] report that in 1938, 55 per cent of the cultivators occupied 3.18 acres (1 carreau), and 90 per cent of the cultivators occupied less than 16 acres (5 carreaux). On Barbados around 1930, 77 per cent of the holdings was less than 1 acre and 95 per cent less than 3 acres when estimates place 5 acres of "good" land as the "minimum economic area for a contented peasant."[206] Whetten[207] reports the earlier ejido allotments appear to be "too small for adequate support of the ejido family."

Extreme population pressure on rural land may result not only in uneconomic holdings but may tend also to promote extreme concentration of land ownership. The areas cited above are often also areas where

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204. John E. Metcalf, The Agricultural Economy of Indonesia (Washington: U. S. Department of Agriculture, 1952), p. 27.

205. Jehan Dartigue and Edouard Baker, "Quelques Donnees sur la Situation Agraire dans la Republique d'Haiti," in Caribbean Commission, Caribbean Land Tenure Symposium (Washington: Caribbean Commission, 1946), pp. 315-325.

206. C. C. Skeete, The Condition of Peasant Agriculture, quoted in Liversage, Land Tenure in the Colonies (Cambridge: Cambridge University Press, 1945), p. 65.

207. Whetten, op. cit., p. 240.

concentration of land holdings is found. In Lebanon, for example, Alamuddin[208] reports 0.2 per cent of the proprietors--171 properties--hold 50 per cent of the land.

The causes of uneconomic holdings are essentially the same as those suggested as the causes of fragmentation. Easily the most important cause is the division of estates among heirs. The influence of this division becomes particularly important in areas where there is heavy population pressure on the land, and alternative opportunities are limited. Under such conditions individuals may have little choice but to cultivate their inheritance. Even if alternative opportunities do exist, however, unless adequate credit is available, the heir may be unable to realize his share of the estate in any form other than a parcel of land. In certain areas rigid religious regulations, such as Islamic law and Buddhist regulations prescribing equal division among heirs, may be proximate causes, but their effect often is basically difficult to remedy because of more fundamental environmental conditions.

The solution to the problem of resource inefficiencies engendered by undersized holdings cannot be either rapid or easy. The United Nations Department of Economic Affairs[209] reports:

> Progress under special measures to deal with uneconomically small holdings has, on the whole, been negligible. . . . Action in this field can best be taken within the framework of a many-sided policy, attempting to foster gradual change in the agrarian structure by counteracting the tendencies which produce excessively small farms.

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208. Alamuddin, op. cit. (unpaged).

209. United Nations Department of Economic Affairs, Progress in Land Reform, p. 193.

The universal experience in underdeveloped countries is that legislation alone is ineffective. Attempts made in the past to enforce minimum sized holdings "have remained abortive."[210] Further, legislation setting a minimum size may possibly become outmoded after some economic development has taken place,[211] although this is certainly not a present danger in most underdeveloped regions where there is heavy population pressure on rural land.

Remedial alternatives

Promotion of co-operatives. One of the proposed solutions for the problem of uneconomic holdings in underdeveloped areas is the adoption of various co-operative practices. By acting as a group, cultivators with uneconomic holdings are able to operate as larger units in certain operations such as purchasing, marketing, and cultivation. This, in turn, will enable increased efficiency through a more effective use of capital and a specialization of labor. Individuals will then have a higher marginal value product, and, providing adequate arrangements are made, will receive a greater return and have the economic incentive for still further improvement in their efficiency. It may also be noted that various co-operative forms have advantages in the dissemination of information to members.

Marketing and purchasing co-operatives of the sort common in Europe and North America have some mitigating effect upon the inefficiencies engendered by undersized holdings. In Egypt, individuals who have benefited

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210. United Nations Department of Economic Affairs, Land Reform, Defects in Agrarian Structure as Obstacles to Economic Development, p. 84.

211. Jacoby, Inter-Relationship between Agrarian Reform and Agricultural Development, p. 37.

under redistribution programs and who hold less than 7.3 acres (5 feddan) are required to join a co-operative.[212] In Italy, provision is made in the agrarian reform law to train individuals benefiting under the redistribution measures in co-operative principles.[213] In the Sudan (outside the area included in the Gezira Scheme) where one of the effects of undersized holdings is to prevent sinking of new wells, pump co-operatives may be formed. A society is formed, granted a license for a pump, and loaned money by the government to cover capital costs which cannot be met by members. The society provides canalization, pumping plant, etc. The cultivator then keeps half the produce from his acreage, while half goes to the society which distributes any surplus among its members. These pump co-operatives do not seem to have become very important.[214] In general, it would seem the effectiveness of marketing and purchasing co-operatives, and other forms of organization which depend solely upon co-operation among separate cultivators, is limited in overcoming resource inefficiencies engendered by undersized holdings.

Since World War II there has been increasing interest in co-operative farming of various sorts. Dantawala,[215] after reviewing the possibilities for solving the problem of uneconomic holdings in areas of heavy population

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212. Ezzat, op. cit. (unpaged).

213. United Nations Department of Economic Affairs, Progress in Land Reform, p. 234 ff.

214. Ibid., p. 245; and W. N. Allan and R. J. Smith, "Irrigation in the Sudan," in J. D. Tothill (ed.), Agriculture in the Sudan (London: Oxford University Press), pp. 593-632.

215. Dantwala, op. cit. (unpaged).

pressure, concludes co-operative farming is "imperative." He argues:

> It is true that cooperative pooling of resources does not increase the per capita availability, but inasmuch as the working of resources in economic units will result in efficiency, the community as well as the individuals forming the cooperative will derive distinct economic gains.

The importance attached to co-operative farming in programs of the government of India has been cited earlier. It is indicated not only in official statements of policy, but in plans for future action. Crane[216] points out the stress being put on "voluntary" co-operative farming in the Indian Five Year Plan, although "it is not clear how such voluntary cooperation is to be organized." Under the plan, it is suggested that co-operative farming be organized on a village basis with a village panchayat or other council responsible for "land management and land reform in the village."[217] Under this scheme the village council would manage all the land owned by the residents of the village as if it were one farm. Owners would draw dividends from the net earnings of the village lands. This sort of plan is open, as Crane[218] points out, to the common objection that everybody's business is frequently nobody's business. To date, the extent of co-operative farming actually being practiced in India is very slight in relation to the total area under cultivation.

The idea of co-operative farming as a solution to uneconomic holdings

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216. Robert I. Crane, Aspects of Economic Development in South Asia (New York: International Secretariat, Institute of Pacific Relations, 1954), p. 52.

217. Government of India Planning Commission, The First Five Year Plan (New Delhi: Government of India, 1952), p. 194 ff.

218. Crane, op. cit., p. 52.

has been widely entertained in other underdeveloped areas. Replies to the United Nations Department of Economic Affairs questionnaire indicated some sort of co-operative farming, generally on a small or experimental scale, was being practiced in the Belgian Congo, Formosa, Pakistan, and New Guinea. In Israel co-operative farms of various sorts cultivate an area of approximately 570,000 acres out of a total area of approximately 4.9 million acres.[219] (Of course, collective farming is widely practiced in areas under Soviet influence, but this is beyond the scope of the present discussion.)

Settlement of new lands and reclamation. Another possible solution to problems of uneconomic holdings involves settlement of new areas of land, or reclamation. This would make possible an increase in labor efficiency by giving the individual a larger holding to work. While this is being done to a limited extent, it is not a promising solution to the problem of uneconomic holdings in underdeveloped areas where there is heavy pressure of the population on the land. The possibilities of large scale migration "need not detain us long," as Dantwala[220] bitterly commented.

Reduction of proportionate subdivision. One of the steps toward solving the problem of undersized holdings where some alternative opportunities do exist is to exert every effort to adapt inheritance systems so that proportionate subdivision is not so common. Legislation should be passed, if necessary, to assure some alternative opportunity is legally possible

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219. United Nations Department of Economic Affairs, Progress in Land Reform, p. 244 ff.

220. Dantwala, op. cit. (unpaged).

where succession practices are unsatisfactory.[221]

An important arrangement which can be made is to provide credit which will enable one heir to retain control of the entire holding, while still making it possible for the others to secure their proportionate share. In West Germany, for example, the government is prepared to extend loans to permit financial settlement between coheirs in certain instances.[222] Papageorgiou[223] suggests the state might even help heirs not sharing in land to find alternative occupations, though this is of limited applicability in many underdeveloped areas. Macmillan[224] cites the example of Afrakanner farmers in South Africa who:

> . . . while adhering in principle to the Roman-Dutch tradition of equal sharing among heirs, have successfully avoided the evil consequences that sometimes attend its practice. The custom is to allow one or two sons to inherit and carry on the family farm, but to make the educational equipment of the rest for professional or other work a charge against them and the whole estate.

Alternative opportunities. Ultimately, the only solution for the resource inefficiencies engendered by undersized holdings in most areas lies in the transfer of agricultural population to the nonagricultural sector of the economy so that the marginal value product may be increased. This, it is obvious, is only possible where there are alternative opportunities, and alternative opportunities can be created only as

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221. Binns, op. cit., p. 20.

222. United Nations Department of Economic Affairs, Progress in Land Reform, p. 202.

223. Papageorgiou, op. cit. (unpaged).

224. W. M. Macmillan, Africa Emergent (London: Faber and Faber Limited, 1938), p. 109.

general economic development proceeds. Again the intimate and intricate interrelationship between agrarian development and over-all economic development is demonstrated. Indeed, this can be reduced almost to a tautology: if uneconomic holdings are the most serious obstacle to economic development, and alternative opportunities are the ultimate solution to the problem, then a lack of economic development is the most serious obstacle to economic development. This is more than a mere academic exercise, however. It re-emphasizes the necessity to break the vicious cycle with a program of over-all economic development, and to evaluate all agrarian reforms in terms of their effect on over-all development and as part of an over-all program.

Reducing underemployment of land arising from the pattern of ownership

In certain underdeveloped countries, an inefficient use of resources arises from a pattern of ownership where some land is held in large estates extensively cultivated--often called latifundia--while the balance is held in much smaller holdings which may even be uneconomic and which are cultivated intensively--sometimes called minifundia.

Underemployment of land in the framework of the necessary conditions for economic development. The most important effect of underemployment of land as a result of the ownership pattern is to reduce the efficiency of the majority of the agricultural labor. When land is withheld from intensive cultivation by the pattern of ownership, many cultivators are forced to farm land of lower productive potential. In this situation, the marginal value product of labor is driven down, and thus the efficiency of individual laborers--and their income--is reduced below the level which otherwise would prevail. Because of the lower production potential of the land,

less capital can be economically used than would otherwise have been the case, since the marginal value product of capital per unit of area will decline more rapidly than it would on better land. Thus two of the necessary conditions for economic development fail to be fulfilled to the greatest possible extent from the standpoint of the economy as a whole. The necessary conditions relating to changes in economic and social institutions would also indicate changes in economic and social institutions are necessary to make economic incentives more effective to encourage increased efficiency.

In assessing the economic effects of the latifundia it is important to recognize, as Heady[225] points out, they are not necessarily inefficient from the standpoint of the individual owners, given the extreme inequality of income distribution which exists in most areas where the phenomenon occurs. Also, the goal of an individual owner may not be the maximum economic return from his holding, but rather some acceptable level of income combined with social prestige and a minimum of management effort.

Another effect of the latifundia pattern is reflected in the statement of the United Nations Department of Economic Affairs[226] that "agricultural production is not adjusted to the demand for food, particularly foods of high nutritional value." Under given income distribution levels such demand cannot be expressed; if income were more equitably distributed, the choice indicators would be placed in the hands of more people and would cause a shift in the allocation of resources, providing the large holdings

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225. Heady, "Fundamentals of Resource Ownership Policy," p. 53.

226. United Nations Department of Economic Affairs, Land Reform, Defects in Agrarian Structure as Obstacles to Economic Development, p. 20.

are operated rationally. Thus, if the income distribution were different or if welfare economics criteria were applied, latifundia could be viewed as the "reverse" of the pattern of land utilization "which market conditions and natural resources require."[227]

Present situation in underdeveloped areas with respect to underemployment of land. The presence of large, extensively farmed holdings side-by-side with small, intensively cultivated holdings is most common in Latin America, although not limited to that region. In Central and South America, south of Mexico, the United Nations Department of Economic Affairs estimates 1.5 per cent of the individual holdings exceed 15,000 acres and constitute about 50 per cent of all agricultural land. A "substantial proportion" of these holdings is either idle land or extensively farmed land."[228] A common feature of agriculture in Brazil, Chile, Guatemala, Peru, and Bolivia before the recent reform was the existence of a form of sharecropping under which tenants received a small piece of land to cultivate in return for some specified amount of work on the landlord's large estate.

The obvious inefficiencies of the latifundia are described by Crist.[229] He reports that the valley of the Tuy River within easy reach of Caracas, Venezuela, could supply the capital city "with an abundance of cheap foodstuffs" for which there is an adequate market among the urban population.

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227. Ibid.

228. Ibid., p. 19.

229. Rayment E. Crist, "Land Tenure Problems in Venezuela," The American Journal of Economics and Sociology, Vol. 1, No. 2 (January, 1942), pp. 143-154.

He points out:

> But the land of this fertile valley is largely in the hands of about a dozen families, and has for generations been used as a pasture. . . . These manorial holdings are family heirlooms, the incomes from which enable the owners to live in Caracas in the style to which they have become accustomed. As long as these families continue to live comfortably from these estates, the task of trying to raise the per unit productivity of their land by the introduction of intensive farming techniques will never even be contemplated. . . . The logical thing would be for this valley to become a market garden for Caracas.

Near the town of San Cristobal in Venezuela, all the fertile, alluvial soil and the sloping hill lands near the city are in pasture. But further away from the city on less fertile, steeply sloping hill lands are many small, intensively cultivated fields of small landholders. Their produce must be carried to market for many miles across the extensively exploited valley floor.[230]

The inefficiencies of resource utilization are reflected in the low level of living prevalent among small holders or squatters throughout South America. "Not only the low productivity" of Venezuelan rural labor, but their "miserable living conditions" and the "social, economic and cultural backwardness of a good three-fourths of the population," Crist[231] reports, have a common denominator--the latifundio."

de Souza[232] notes that the latifundia land pattern is "the general situation in Latin America, taken as a whole," although in Brazil such

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230. Ibid.

231. Ibid., p. 153.

232. Joao Goncalves de Souza, "Land Tenure Problems in Brazil and their Solution," in Joseph Ackerman and Marshall Harris (eds.), Family Farm Policy (Chicago: The University of Chicago Press, 1947), pp. 251-284.

large holdings are "constantly changing their economic activity." He reports laborers on these estates often are paid only in beans, rice, and other necessities, and never see money at all. Their diet is recognized as the basic cause of chronic pellagra, beriberi, and other deficiency diseases. Smith[233] asserts, "certainly it seems beyond all possibility of dispute that the very unsatisfactory standard of Brazil's working masses is directly due to the concentration of land-ownership."

Under rural conditions such as those described above, it is only to be anticipated that standards of cultivation will be low. Tenancy is highly insecure, with the resultant evils of erosion, poor cropping practices, etc. Literacy levels are low, making the task of improving cultivation standards difficult.

Despite the obvious resource inefficiencies engendered by the latifundia system of land tenure and utilization throughout Latin America, the United Nations Department of Economic Affairs[234] notes "no special measures to deal with this problem are reported from this region" with the exception of Mexico and Bolivia.

The problem of underemployed land is not, of course, limited to South America. In Italy, for example, in the Sila region to the south, Vanzetti and Meissner[235] report 137 individuals owned almost 1 million acres, nearly

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233. T. Lynn Smith, Brazil: People and Institutions (Baton Rouge: Louisiana State University Press, 1946), p. 361.

234. United Nations Department of Economic Affairs, Progress in Land Reform, p. 186.

235. Carlo Vanzetti and Frank Meissner, "The Agrarian Reform in Italy," Land Economics, Vol. 29, No. 2 (May, 1953), pp. 142-154.

30 per cent of all agricultural land in the region. Some of this land was farmed extensively or held in various nonproductive uses. Yet in this area of poor soil there is an average of 168 people per square mile, most of whom live in villages. Since the passage of the Sila Act of January 12, 1950, and the Stralcio Act of October 21, 1950, the government has embarked on a land redistribution program in that area and in other depressed areas in southern Italy. By the end of 1951, 302,169 acres (122,336 ha.) had been distributed to 42,864 peasants.

Remedial alternatives

Redistribution of underemployed land to small cultivators. One means of overcoming underemployment of land arising from ownership patterns is to redistribute the land to small cultivators and to compensate present owners. Many of the considerations discussed under redistribution to overcome tenure uncertainties apply in this instance, too.

In Mexico, the agrarian reform measures cited earlier were directly aimed at destroying the latifundia by setting legal limits to the size of private landholdings and establishing agricultural workers and tenants on ejido holdings. As cited earlier, as late as 1923, 2 per cent of the haciendas comprised 58 per cent of the cultivated area and 97 per cent of all people who earned their living in agriculture owned no land. By 1945, nearly half the cultivated area of the nation had been transferred to ejidos, and two-thirds of the people employed in agriculture now have an ownership interest in the land they cultivate.[236]

The other important redistribution program in Latin America followed

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236. Whetten, op. cit., p. 240.

the agrarian reform decree of August 2, 1953, in Bolivia. The decree was aimed explicitly at the latifundia. The effect of the decree is to eliminate the latifundia as a legal form of landholding. It defines the latifundia as:[237]

> . . . the rural property of large size which may vary according to its geographical location, that remains idle or is exploited deficiently by the extensive system (low capital inputs relative to other factors) with obsolete tools and practices and which serves to perpetuate serfdom and submission of the peasant. (Article 12).

In a later part of the decree discussing properties to be expropriated and the extent to which they are liable, it is noted that the "unit of land property defined as latifundio is affected in its entirety" (Article 34). It should be noted that the decree, while eliminating the latifundia, explicitly recognized and sanctioned within limits "agricultural enterprises" which where defined as "heavily capitalized agricultural undertakings which employ wage labor and apply modern techniques."[238]

Current progress in the agrarian reform is difficult to evaluate, although in one recent article, Galloway[239] reports the land reform "is getting top attention now" and that "big estates are being broken up." He reports some illegal seizure on the part of peasants, some decline of crop production under peasant ownership, and dissatisfaction among large landowners with the terms of the transfer. In Italy, to meet the problem of expropriating extensively cultivated land while attempting to keep the

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237. Flores, op. cit., p. 120.

238. Ibid.

239. Clark H. Galloway, "Overhauling Bolivia," U.S. News and World Report, January 7, 1955, pp. 42-44.

benefits of more efficiently cultivated large farms, the Italian redistribution program established a sliding scale of expropriation rates based on total taxable income from the property and average per hectare taxable income.[240]

Incentive taxation to encourage intensive cultivation. The imposition of surtaxes or progressive land taxes is another means to encourage more intensive cultivation of lands. Although there are instances where this is being attempted, it does not seem to be of great importance.

Incentive taxation is an example of an adjustment of economic and social institutions to encourage an increase in the intensity of capital use and the efficiency of labor.

Surtaxes and penalty taxes on arable land not used, or not fully used, have been enacted in Brazil and Panama.[241] In Mexico, ejido lands are taxed at a rate lower than private lands, which, while not explicitly directed at encouraging intensive cultivation, tends to have this effect.[242] In Chile, "the law provides that the general real estate tax should be increased . . . in the case of cultivable land which is kept idle," but this

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240. Vanzetti and Meissner, op. cit., p. 149.

241. Walter W. Heller, "A Survey of Agricultural Taxation and Economic Development," in Conference on Agricultural Taxation and Economic Development, Papers and Proceedings (Cambridge, Massachusetts, January 28 to February 3, 1954), pp. 222-244.

242. Aron J. Aizenstat, "Structure and Taxation of Agriculture in Mexico," in Conference on Agricultural Taxation and Economic Development, Papers and Proceedings (Cambridge, Massachusetts, January 28 to February 3, 1954), pp. 305-321.

surcharge "is seldom enforced."[243] More widespread use of this device has been widely recommended by technical assistance and International Bank missions.[244]

Reducing title insecurity

In a number of underdeveloped areas, a lack of secure title to land and water rights is a cause of resource inefficiencies.

Secure title in the framework of the necessary conditions for economic development. The advantages to the landholder of secure title properly registered are of great importance. A secure title increases certainty of expectations through removing tenure uncertainties of ownership. It also minimizes the possibilities of disputes and legal actions. Many of the effects of uncertainties arising out of conditions of tenure apply in the case of a lack of secure title. The economic horizon of the individual cultivator is reduced. He will prefer short-term crops and other adjustments which cause him to skew the allocation of his resources to a less efficient pattern than would be possible if he were certain of realizing full advantages of a long-term investment. A lack of secure title may also restrict the availability of credit from local lenders, either through uncertainty the owner will be able to retain his holding long enough to repay the loan, or through a failure to be able to offer land as security. The cultivator cannot use the optimum amount of capital which

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243. Fiscal Division, Department of Economic Affairs, United Nations, "Structure and Taxation of Agriculture in Chile," in Conference on Agricultural Taxation and Economic Development, Papers and Proceedings (Cambridge, Massachusetts, January 28 to February 3, 1954), pp. 337-348.

244. Heller, op. cit., p. 137.

would be indicated if credit were available, and capital is not allocated in the most efficient manner from the standpoint of the society as a whole.

Similar considerations apply to a lack of secure water rights. The individual cultivator will be cautious about planting crops requiring irrigation water if he is uncertain about the amount of the available water he will be able to secure. Jacoby[245] points out that tenure conditions which allow exercise of private water rights without regard to the rights of other persons may cause the formation of uneconomically sized farms. This might arise, for instance, if a cultivator were to purchase a holding which would be economic with irrigation water, only to be deprived of these rights at a later date as a result of the establishment of a claim to the irrigation water.

Present situation in underdeveloped countries with regard to title security. Title insecurity is widespread. In Haiti a lack of a system of registration of title and the custom of joint possession "have led to extreme confusion with regard to title to land."[246] A similar situation exists in Columbia, Venezuela, and Bolivia. The government of India reports the "absence of a proper record of rights in some of the areas" of the nation is an obstacle to agrarian reform and thus to economic development.[247]

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245. Jacoby, Inter-Relationship between Agrarian Reform and Agricultural Development, p. 22.

246. United Nations Department of Economic Affairs, Progress in Land Reform, p. 46.

247. Ibid., p. 59.

In several areas in Africa overgrazing of communal pasture shows the effects of a lack of clear title to assure future returns. There is little incentive to improve the land, and little has been done to initiate range management practices or erosion control. In Kenya the overstocking of grazing land is "serious," and some of the native reserve common pasturage in South Africa is estimated to be stocked at a rate "80 percent above that which the land is capable of carrying year in and year out without detriment to the pasture."[248] (In the United States, the Taylor Grazing Districts have been organized to formalize the rights and responsibilities of individuals acting as a unit for purposes of allocating communal grazing rights.[249])

In the arid regions of the Middle East, the lack of secure title to water rights causes inefficiencies in resource allocation. A great confusion over water rights has arisen as a result of the breakdown of the rights to land and water under the Ottoman Empire. Under the Ottoman rule rights in water were regarded as personal property, and not attached to any parcel of land. Land could be alienated apart from water rights, and speculators and large landholders were able to secure rights to water and to compel individual small cultivators either to move off their holdings or use less water than otherwise would be most economic. The separation of land and water rights also is an obstacle to the state in the acquisition of water rights for irrigation schemes.[250]

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248. Liversage, op. cit., p. 50.

249. Renne, "Range Land Problems and Policies," p. 132 f.

250. United Nations Department of Economic Affairs, Land Reform, Defects in Agrarian Structure as Obstacles to Economic Development, p. 25.

In these areas the lack of secure title to land is an obstacle, too. In Jordan, Schweng[251] reports village ownership of land with the periodic reallocation of fields to families has been abandoned and secure individual ownership has been established. (There have also been problems, however, in securing enough land to establish economic holdings, especially where the prevailing subsistence-type farming pattern has not been changed.) In other countries of the Middle East, he reports, "surveying and registration of land has not progressed so far."

A report to the United Nations Economic and Social Council in 1949 states less than 2 per cent of the land areas of the world are mapped on scales of 1:25,000 or larger, which is considered as essential for planning, development, and administration. (The report seems to have omitted the cadastral maps in India and Burma.) The report also indicated it is doubtful if more than 25 per cent of the land areas of the world are even covered by reconnaissance maps of 1:300,000 or 1:250,000 or larger compiled from aerial photographs or systematic ground surveys.[252]

Remedial alternative: title registration. The uncertainties arising from insecure title are obviously overcome by registering title in some acceptable manner. Perhaps the best means is through cadastral registration. To the extent insecure titles had caused uncertainty, cultivators would then be assured of future returns consistent with an economic

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251. L. D. Schweng, "Agricultural Problems of the Middle East," Journal of Farm Economics, Vol. 35, No. 4 (November, 1953), pp. 582-594.

252. Economic and Social Council of the United Nations, Report of the Secretary General on Co-ordination of Cartographic Services of Specialized Agencies and International Organizations (New York: Economic and Social Council of the United Nations, 1949), 342 pp.

horizon long enough to encourage long-term planning and optimum efficiency.

Although a cadastral survey and registration of rights is not necessary for every agrarian reform or for every land redistribution program, Binns[253] suggests a number of important advantages:

> (1) A proper system of cadastral survey and registration of rights is the essential basis of a real understanding of the agrarian situation in a country, and thus to the planning of any measure of agrarian reform.
> (2) Such a system is, if possible, even more important in the execution of any plan of reform which involves any disturbance or change of existing rights in land. . . .
> (3) Large scale maps are essential to . . . schemes for the settlement of new lands.
> (4) Large scale maps (and usually registers of rights) are of the greatest value in carrying out the provisions of tenancy legislation involving control of rents or security to the tenant in his land and improvements.
> (5) Registration of rights greatly facilitates the operations of any scheme for the supply of agricultural credit, especially to small farmers.

Even in areas where communal rights are the dominant factor in the tenure pattern, a register of the rights in land will promote agrarian development by reducing uncertainty. Rights in these instances need not be reduced to the rights of an individual in a specific parcel of land, but may rather be registered in the name of the family, clan, or other community. Such a system, however, will tend to reduce disputes over ownership, and unscrupulous expropriation of land by powerful individuals.

The most satisfactory system of registration of title to land and water rights in underdeveloped areas would seem to be an adaptation of an ordinary cadastre, which, strictly speaking is a record of areas and

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253. Bernard O. Binns, Cadastral Surveys and Records of Rights in Land (Rome: Food and Agriculture Organization of the United Nations, 1953), p. 5.

values of land and of landholders for purposes of taxation. It also, however, provides a means of precise description and identification of particular pieces of land, and acts as a continuous record of rights in land. Binns[254] points out that in Burma the record of rights in land was maintained by the government principally as a means of collecting taxes, but that the register has come to be accepted as presumptive proof of ownership by the courts. The cost of the Land Records Department was treated as a cost of collecting revenue, and the advantage of a more elaborate cadastre gained without any extra cost.

The high cost of a complete cadastral survey is an important deterrant to adopting this remedial alternative. Binns[255] recognizes this but insists that it is "not beyond the means even of relatively poor agricultural countries," the cost of maintenance of records "need not be expensive," and all expenses incurred "will rapidly be recouped in the advantages derived." In comparing the advantages of aerial surveys in underdeveloped areas as opposed to ground survey methods, he concludes the aerial surveys are not likely to be substantially cheaper. He bases his conclusion upon the high cost of well-trained air survey crews which nonetheless cannot work continuously as against the possibility of using principally local individuals in the ground survey work.

In underdeveloped areas, as the United Nations Department of Economic Affairs[256] notes:

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254. Ibid., p. 29.

255. Ibid., p. 7.

256. United Nations Department of Economic Affairs, Progress in Land Reform, p. 208.

> It is evident that governments are increasingly aware of the importance of reliable cadastral surveys and an effective registration of rights in land to provide both additional security to all classes of landholders and a true understanding of the agrarian situation.

Also, in these underdeveloped areas, the importance of registration of title as a step to improve administration, to provide information for agricultural development, and to facilitate various agrarian reforms is being increasingly recognized. But registration of rights in land, if it is to have the greatest influence on agrarian structure, must be compulsory.

Progress in registering rights is proceeding slowly in underdeveloped areas although several surveys in these areas are being carried out. In Turkey, some 200,000 properties are being mapped annually by a cadastral survey, and plans are under way to complete the survey through aerial surveys. The government reports the surveys and registration of rights in land property have "induced peasants to give more attention to the improvement of their land." In Jordan a system of title registration was introduced under the Land Settlement Laws of 1937 and 1942. The system was introduced at the time the custom of periodic reallotment of communal lands to cultivators was being discontinued, and there was much confusion over ownership rights. The government reports a reduction in the number of disputes, and the system has proved "very beneficial."[257] In India and Pakistan steps are being taken to complete the survey and registration of ownership in areas where it had not been completed under British rule. The only Latin American country to report any recent progress in title

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257. Ibid., pp. 207 ff.

registration is the Dominican Republic where an incomplete system has been undertaken.

An interesting adaptation of the incentives and means of improving justice provided by title registration to meet the needs of communal tenure is reported from Mexico. It has been found that without a system of title registration, the transfer of ownership rights to the individuals who are members of an ejido does not provide sufficient security. Irregularities in the working of the ejido system sometimes caused inequities and even unjust deprivation of holdings. Therefore, the Agrarian Code of 1942 was passed "to establish the individual right of the ejido holder by means of certificates, title deeds, and other documents such as protect property on urban sites."[258]

A number of underdeveloped areas report plans to register rights in land. Among such areas are Papua and New Guinea, Nepal, Surinam, Chile, and Brazil.[259]

In view of the slow progress of title registration and the widespread lack of technical personnel, the government of Haiti suggested:[260]

> . . . the institution of an international or regional technical brigade within the organization of the United Nations, whose function should be to assist governments to make a land survey at low cost (by aerial photography and photogrammetric maps). . . . The training of personnel should be undertaken . . . a special international fund should be constituted, and . . . existing international credit organizations should consider the possibility of granting long-term credits to Member Governments which make requests for this purpose.

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258. Ibid., p. 207.

259. Ibid.

260. Ibid., p. 211.

To date, no such organization has been undertaken, and little progress has been made to curb resource inefficiencies engendered by lack of secure title to land and water rights. This is true despite the immediate benefits of such a program in the favorable reports of authorities in the field, and the fact that of all the adjustments which could be made to overcome resource inefficiencies in underdeveloped countries, this is probably the one which would meet with the least opposition and difficulty of execution.

Reducing high fixed cost of operating credit

Reforms in agrarian structure which eliminate the causes of resource inefficiencies engendered by tenure conditions, noncontiguous tracts, undersized holdings, low uses of land, and lack of title may still fail to exert their maximum effect on agrarian development because of the high fixed cost of operating credit. Binns[261] asserts:

> . . . there is no reasonable doubt that in many [underdeveloped] countries a static or even retrogressive condition of agriculture has as a major cause a simple lack of ready money in the hands of the farmer.

A recent empirical estimate strongly supports the contention that operating capital is of vital importance in underdeveloped areas. Bhattacharjee[262] estimated a production function of the Cobb-Douglas type for world agriculture. His estimates indicate a marginal productivity of fertilizer per metric ton of $2,300, "higher than that of one unit of any

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261. Bernard O. Binns, Agricultural Credit for Small Farmers (Rome: Food and Agriculture Organization of the United Nations, 1952), p. 30.

262. Jyoti P. Bhattacharjee, "Resource Use and Productivity in World Agriculture," Journal of Farm Economics, Vol. 37, No. 1 (February, 1955), pp. 57-71.

other item of resource input in the world at large."

Operating credit within the framework of the necessary conditions for economic development. Improved channels for operating credit will improve the efficiency of capital through reducing the costs of loaning money and a better assessment of the risks involved. In turn, this will enable a better allocation of capital to those uses and cultivators who have the highest marginal value product, increasing the efficiency of capital use. A more efficient allocation of capital resources will increase labor efficiency from the standpoint of the individual cultivator as well as from the standpoint of the economy as a whole. Several of the means to increase availability of operating capital, such as special government rural credit institutions and credit co-operatives, represent significant adjustments of economic institutions to secure increased efficiency and to move toward greater fulfillment of the necessary conditions for economic development.

In instances where superior education or economic power enables the moneylender to extract an excessively high rate of interest there may be actually an arbitrary transfer of income from cultivators to moneylenders. This would be the case, for instance, if a moneylender were to buy a standing crop assessed at a low value or the case where interest was compounded over a very short term such as monthly. It might also be the case where the moneylender had access to credit at a relatively low rate because of his ability to put up land as equity, and then loaned the funds at relatively high rates to small cultivators on whom he had some other claim or whose risk he was able to evaluate because of his knowledge of local conditions. In instances such as these, the cultivator would fail to secure

a return in accordance with his own contributions preventing fulfillment of the necessary condition relating to factor rewards.

The limitation of credit available to individual farmers, or more formally the rationing of capital, prevents the individual cultivator from reaching the optimum position of enterprise combination and resource allocation which would be indicated by the theory of the firm. In underdeveloped areas, this operates first by restricting the choice of methods of production. For instance, even if a cultivator were aware of the advantages of hybrid corn or D.D.T. he might not have access to the credit necessary to secure them. Hendrix[263] suggests that new production techniques in agriculture in underdeveloped areas are best treated analytically as different production functions. To choose to produce on one of these different production functions will involve uncertainty always attendant with new techniques. In underdeveloped areas this is particularly important, since many farmers live at the very minimum level which avoids starvation. Any new technique which reduces output may jeopardize their very life. The availability of a cushion of credit might enable them to risk the adoption of the new technique. Further, most new production techniques have an early factor-using period before they begin to repay the investment necessary to institute them. Under conditions of high fixed costs of operating capital, the resources of the individual farmer may not be large enough to carry him over this factor-using period, and the new technique itself may not be economic where rates of interest are too high.

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263. W. E. Hendrix, "Availability of Capital and Production Innovations on Low-Income Farms," Journal of Farm Economics, Vol. 33, No. 1 (February, 1951), pp. 66-74.

Even if the cultivator should choose a new technique, high fixed cost of operating capital or outright capital rationing might limit the extent to which the cultivator could add variables to push production along the production function to the point where his marginal cost was equal to his marginal revenue. If he is faced with a high fixed cost of operating capital, he will reach the optimum profit position at a smaller output than if he were faced with lower costs. (Even under existing conditions of high fixed costs, however, it probably would pay most small farmers to use more of such variables as fertilizer and better seed stock if they had better knowledge upon which to base production decisions.)

High fixed costs of credit or capital rationing also have the effect of forcing the individual cultivator to make a very high allowance for uncertainty, reducing the efficiency of his resource allocation within his firm. If he must pay high interest rates, he must limit his borrowing so that even in poor years his returns will be enough to meet his debt, or at least be enough he can make the minimum possible payment which will enable him to retain his farm. If he must pay high rates of interest or if he is experiencing severe capital rationing, he may be uncertain he can secure the further capital necessary to reap the benefits of any improvements undertaken.

Equally important are the effects of high fixed cost of credit or capital rationing on marketing. Proper credit facilities enable farmers to hold their crops until a favorable marketing period. High fixed cost or a lack of credit in an area will force farmers to market their crops as soon as they are harvested, causing a glut on the market and driving prices down. In Asia this is a serious obstacle to agrarian development.

Crane[264] reports that in Burma, because of the lack of credit and the high fixed cost of such credit as is available, the cultivator "in order to get cash, frequently has to sell his standing paddy at prices one-third below the free market price for harvested rice." If he is able to wait until harvest, he must sell directly from the harvesting floor to meet rents due to landlords and the loans which fall due at harvest. "Consequently, the market is flooded with sellers, ready to sell at any price, for two or three months after harvest." Similar situations are common throughout other underdeveloped areas, especially those where there is heavy population pressure on the land.

In many underdeveloped areas, some credit may be necessary if the farmer is to provide even a minimum level of living for his family. Binns[265] points out that once the farmer has moved beyond the mere subsistence stage in the progress of agrarian development, "few or no farmers can maintain or expand their enterprise without having recourse from time to time to borrowing." From the broadest sense, perhaps Johnson and Barlowe[256] phrase the really relevant advantages of credit:

> A good agricultural credit program enables farm people to take better advantage of their capabilities and opportunities to improve themselves by their own efforts. This is very important in underdeveloped countries in making for economic progress and in developing individual initiative and local leadership.

When agrarian reforms involve the transfer of ownership rights, as would be the case in a land redistribution program, the high fixed cost of

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264. Crane, op. cit., p. 49.

265. Binns, Agricultural Credit for Small Farmers, p. 2.

266. Johnson and Barlowe, op. cit., p. 391.

operating capital becomes critical.

Programs which transfer ownership in land to cultivators may fail to increase production because no provision is made to supply the credit needed to establish the new farm operation or to replace the operating capital formerly supplied by the landlord. Schultz[267] points out that "unless the reform measures also are successful in altering the credit institutions" the effect of transfer to tenant operators "is a net loss in income."

The importance of adequate credit facilities as an integral part of a successful agrarian reform program has been increasingly recognized in recent years, both among economists professionally concerned with agrarian reforms, and among governmental officials concerned with instituting and carrying out such a program. Commenting on the situation in Romania after the agrarian reform following World War I, Mitrany[268] reported "the credit at the disposal of farmers nowhere came near what they needed" whether for reconstruction or establishing new farms on redistributed land. A similar lack of attention to agrarian credit caused reforms in other eastern European countries to fail to increase agricultural production to the extent anticipated. Since World War II, extensive attention has been paid to credit problems in underdeveloped areas where agrarian reforms are in progress or contemplated.[269]

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267. Schultz, op. cit., p. 138.

268. Mitrany, op. cit., p. 424.

269. United Nations Department of Economic Affairs, Progress in Land Reform, pp. 218 ff.

The growing awareness of the need for credit in underdeveloped areas may perhaps be "exaggerated" in the opinion of Liversage.[270] He points out that livestock reproduce naturally, that "the possibility of building up capital is underestimated," and that many improvements can be carried out during periods of underemployment. Perhaps this is true to some extent in Africa, but in Asia agriculture is highly developed in the sense of high labor inputs and livestock are relatively less important. If production is to increase, credit will be needed. The importance of credit in an over-all agrarian reform is almost universally conceded by other authorities.

Present situation in underdeveloped countries with respect to costs of operating capital. The rates of interest charged cultivators in underdeveloped countries for short-term operating capital appear high when compared to the levels prevailing in economically more developed areas.

Jacoby[271] reports landlords charge tenants 1.75 to 2.50 per cent per month in the Delta region of Burma, and moneylenders in Thailand charge 22 per cent per year. Bowles[272] reports 30 per cent rates in Madras. In Lebanon, Alamuddin[273] relates "our farmer . . . usually . . . pays 10 per cent per month, making it 120 per cent per annum" and "sometimes he pays 300 per cent." The government of the Philippines reported:[274]

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270. Liversage, op. cit., p. 88.

271. Jacoby, Agrarian Unrest in Southeast Asia, pp. 87, 233.

272. Chester Bowles, Ambassador's Report (New York: Harper & Brothers, 1954), p. 174.

273. Alamuddin, op. cit. (unpaged).

274. United Nations Department of Economic Affairs, Progress in Land Reform, p. 213.

> The vast majority of tenant loans are accomplished through landlords, merchant buyers and relatives at annual interest rates of from a minimum of 25 per cent to a maximum of 400 per cent. Such interest is usually accomplished by devious methods often involving no records, and usually in connexion with the sale or transfer of products.

These high rates have crippling effects not only on agriculture but on the economy as a whole. The United Nations Department of Economic Affairs[275] observes:

> Such rates are an obstacle to general economic development since clearly no ordinary investment in agricultural production or industrial enterprise can compete with the rate which the moneylender or landlord can get by short-term lending to cultivators.

The effect of these high interest rates on other sectors of the economy can easily be overrated, since there is a high risk and high cost of collection associated with lending at these rates to cultivators. Nonetheless, most observers would agree these high fixed costs of operating capital have the far reaching effects Jacoby[276] suggests:

> The unfortunate influence of the credit problem ranges from the sowing of the crop to the marketing of the produce. It reaches every phase of individual and public health. It degrades human labor and hinders the normal functioning of political institutions since indebted and dependent peasants are unable to act as citizens. The absence of reasonable credit institutions is mainly responsible for the improvidence and lack of any capacity to economize (even if the opportunity should arise) of the native population.

It may be noted there are good reasons why the cost of operating capital to individual cultivators in underdeveloped areas should be higher than corresponding costs either to business in the same areas or to agriculture

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275. United Nations Department of Economic Affairs, Land Reform, Defects in Agrarian Structure as Obstacles to Economic Development, p. 43.

276. Jacoby, Agrarian Unrest in Southeast Asia, p. 22.

in economically more-developed areas. Farmers have little or no concept of records in underdeveloped areas, making it difficult and expensive to assess their suitability as credit risks. Local moneylenders, landlords, and shopkeepers are, however, in a position to make skilled estimates; a bank would have great difficulty. It is difficult to maintain close contact between urban centers and the scattered and numerous rural areas where cultivators are, and the cultivators are hesitant to go far from their homes to borrow money. The size of loans in underdeveloped areas is generally small, making servicing costs a very high proportion of the amount of the loan. The average loan to cultivators in underdeveloped countries is estimated by Li[277] to be some 10 dollars.

In addition to these problems which are most acute in underdeveloped areas, there are, of course, the problems of supplying credit common to agriculture in any economy: length of the production process, risk and uncertainty arising from climate and price fluctuations, seasonality, etc.

One special consideration regarding agricultural credit for small cultivators in underdeveloped countries is the large amount of borrowing done to meet consumption, rather than production needs. Liversage[278] quotes an Indian banking study in the United Provinces which shows only some 30 per cent of the debt is contracted for production, and in the Central Provinces 34 per cent of the debt is contracted for nonproductive

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277. Choh-Ming Li, quoted in Thomas C. Blaisdell, Jr., Elizabeth K. Bauer, Henry E. Erdman, and Irving F. Davis, Jr., Farm Credit in Underdeveloped Areas (Berkeley: University of California in co-operation with the Foreign Operations Administration, the Department of State, and the Department of Agriculture, 1953), p. 31.

278. Liversage, op. cit., p. 92.

purposes. Money is frequently borrowed to meet the heavy ceremonial expenses of marriage, funerals, etc. Bowles[279] tells of a farmer in Madras who had borrowed more than his whole year's income to marry each of his daughters and "fears he will be in debt to the BANKER moneylender for his whole lifetime." In other cases, the mere necessity of purchasing food may mean a need for credit until the next crop can be harvested. From the standpoint of attempts to increase national agricultural production, these may be regrettable uses of credit, but they cannot be denied from the standpoint of the individual and his cultural matrix.

Other considerations which affect agrarian credit in underdeveloped areas must also be recognized. The per capita income is low, and consequently the rate of internal savings in the farm firms is very small. In part because of the low income, co-operatives have not appeared with the spontaneity which has characterized western Europe. In many areas the tenant farmers have little security of tenure and thus are poor risks from that viewpoint, if no other. Finally, sources of money which are organized to tap urban savings, such as banks, are often not organized to serve the credit needs of small cultivators.

The commercialization of agriculture in the underdeveloped areas has been the chief cause of the increasing importance of the problem of agricultural credit and indebtedness. Semthiti[280] points out that

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279. Bowles, op. cit., p. 174.

280. Theb Semthiti, "Co-operation, Credit and Capital in the Agriculture of Thailand," in Conference on World Land Tenure Problems, Proceedings, Part 1 (Madison, Wisconsin, October 8 to November 20, 1951), unpaged.

commercialization of the rice industry in Thailand "inevitably created a demand for agricultural credit, followed by farm indebtedness and the usurious rates of interest common to such condition." He was only outlining the common experience of nearly all the underdeveloped nations over the course of the last century and a half. He notes:[281]

> It is a stubborn fact that in localities where rice is cultivated for commercial purpose, the majority of the peasants are buried in the mire of debts, resulting sooner or later in their mortgaged lands being foreclosed and their title-deeds passed on to the creditors.

The agrarian credit problem revolves around this transition from subsistence farming to commercial agriculture and the consequent disintegration of village life. The failure of the local, village centered economy, the withering away of native handicrafts under the competition of better and cheaper imported goods from industrialized nations, and the transition from food crops to commercial crops are the main factors responsible for the shortage of money and all that is associated with it. The extension of the commercial interests of the West favored money exchange at the expense of subsistence and barter economy, but did not provide the needed cash, nor the essential credit institutions for the bulk of the cultivators caught in the change. The cultivator often was not, in any case, prepared to handle money and was unable to manage a credit business with combination of boldness and caution which is termed business acumen in the West. Consequently, when in need, he was driven to small moneylenders who would lend money at high rates of interest. Unreasonable credit caused hopeless indebtedness, the loss of land, lower prices as a result of lowered

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281. Ibid.

bargaining power at marketing times, and inevitably led to an increased demand for new credit at still a more usurious rate.[282]

The continuing problem of high fixed cost of operating capital in underdeveloped countries can be traced in part to a lack of specialized institutions which can meet the legitimate credit needs of the cultivator. Even in the economically relatively well-developed nations of western Europe and North America banks have only very recently begun to adapt themselves to meet the specialized needs of agriculture, although specialized co-operative credit organizations have long been in operation. The special requirements of agricultural credit, the remoteness of farmers from urban banks, the lack of personnel trained in both finance and agriculture, and the generally small amount of the loans combined with limited material collateral have prevented established institutions in underdeveloped areas from providing credit for small farmers.

Faced with the lack of commercial sources, the cultivator in underdeveloped nations has three alternatives: the village moneylender, his landlord, or the retail merchant and pawnbrokers.

Since village moneylenders operate on limited capital themselves and are faced with high risks among their borrowers, their rates are of necessity high. Since they deal with small amounts and since many of their creditors are in arrears, they have high costs of operation. In Burma, Jacoby[283] points out the Chettyars, which are professional moneylenders, have no direct interest in agriculture at all. By encouraging their

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282. Jacoby, Agrarian Unrest in Southeast Asia, p. 21 f.

283. Ibid., p. 79 f.

creditors to borrow beyond safe limits, they have become a large class of powerful absentee landlords, a situation which is common also in other parts of Asia. The Chettyars in Burma "calculate the rentability of their estates in terms of interest due from the tenants rather than in terms of agricultural productivity" which Jacoby assigns as "one of the main reasons for the backward stage of agricultural cultivation." The moneylender tends to keep his rates secret, charging what the market will bear, and raising the nominal rate of interest through various devices of repayment in kind, special privileges, usufructuary mortgages, etc.

A second source of credit for tenants in underdeveloped nations is the landlord. In areas where the percentage of tenants is high, this is often an important source, as is the case in the Philippines.[284] The Chettyars of Burma, cited above, have become in many instances important landlords, but consider themselves as moneylenders. Landlords can often take advantage of established money markets to secure money at low rates of interest secured by land, gold, or jewelery. This money may then be loaned to tenants at very profitable rates. Borrowing through landlords tends to make interest rates high and the system is open to abuses. Loans generally are repaid in kind, making interest rates difficult to estimate. Often the landlord markets the whole crop himself, to the detriment of the tenant. Also, tenants in debt to their landlords are in a very poor bargaining position in respect to the levels of rent they will pay, whether paid in cash or in kind, as is more often the case. Any program which

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284. United Nations Department of Economic Affairs, Progress in Land Reform, p. 213.

attempts to regulate tenancy conditions will have to deal, also, with the problem of supplying credit for those tenants who normally secure credit from their landlords. Without outside sources of credit, regulations designed to curb resource inefficiencies engendered by conditions of tenancy would have little chance of success. Unlike the situation in the case of the moneylenders, it would seem ill advised to attempt to include landlords as part of a credit program for small cultivators except incidentally. Widespread borrowing through landlords is too open to abuse, and the economic power of the landlord too great to provide an environment for fair bargaining.

A third common source of credit for small cultivators in underdeveloped countries is the retail merchant. His practice is to allow credit for day-to-day purchases repayable at harvest time, often in kind. The rates of interest in this type of transaction are probably the highest of any common source of credit, and, as in the case of the Philippines, may run at the rate of 400 per cent a year.[285] The shopkeeper may also act as a pawnbroker, lending money against jewelery and similar valuables. In this respect he is much the same as any other moneylender, except he is in a favorable position to secure repayment by threatening to deny further credit in his store. A particularly vicious variation of borrowing through the retail merchant may come in borrowing through the estate store. This becomes almost the same as borrowing through the landlord, and the tenant becomes virtually bound to the estate. The hacienda store was often found

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285. Ibid.

in Mexico before the agrarian reform measures were widely applied, and Crist[286] reports the system in operation in Venezuela. Not only are interest rates high at estate stores, but prices tend to be quite high, too.

With a lack of credit at reasonable rates elsewhere, the bond between the lender and the cultivator is tightened. Until this dependence upon the moneylender can be broken, such government supported and encouraged institutions as rice mills and other marketing institutions cannot function properly. Rural indebtedness becomes both the cause and effect of poverty, and without effective credit channels there is little hope of breaking the cycle.[287]

Remedial alternatives

Maximum legal interest rates. Several underdeveloped nations have attempted to meet the problem of high fixed cost of operating capital directly by establishing maximum allowable interest rates. Presumably these rates would be set to approximate the average marginal value product of capital, helping move toward fulfillment of the necessary conditions for economic development. In Chile the rate is 12 to 18 per cent; in Haiti, 12 per cent; and in Portugal, 8 to 10 per cent.[288] The effectiveness of such measures seems negligible. In the first place, as Semthiti[289] points out, the nominal rate of interest does not necessarily reflect the

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286. Crist, op. cit., p. 146.

287. Jacoby, Agrarian Unrest in Southeast Asia, p. 22.

288. United Nations Department of Economic Affairs, Progress in Land Reform, p. 230.

289. Semthiti, op. cit. (unpaged).

actual rate charged. Many means of evasion are open when the moneylender is in a powerful economic position, as is usually the case, and where much of the transaction is in kind. In the Philippines, the government has concluded:[290]

> . . . there is a law on usury that is adhered to by financial institutions; and financial institutions lend only to farmers who own land . . . therefore, among tenants with no other source of credit, enforcement of usury laws is almost impossible.

Licensing moneylenders to control rates. The village moneylender is not wholly undesirable. It is to be noted he has a close and an intimate knowledge of his clients and their farms. Although often hated, he is nonetheless a member of the local community, and as such has certain advantages over a stranger. In India, Jathar and Beri[291] point out:

> Even under any other conceivable scheme of rural credit, such as cooperative credit societies or land mortgage banks, it would be an immense advantage to make the moneylender an integral part of the new credit institutions and to induce him to make his knowledge and his capital available through these new organizations.

As a first step toward harnessing the village moneylender to the purposes of a more efficient rural credit program, Binns[292] recommends controlling moneylending through the courts and setting limits to the type and rate of interest recoverable. To be effective, he suggests, regulations and penalties would have to be mandatory on the court. However, in view of the almost total lack of success of measures attempting to limit

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290. Ibid.

291. G. B. Jathar and S. G. Beri, Indian Economics: A Comprehensive and Critical Survey, Vol. 1 (9th. ed.; Madras: Oxford University Press, 1949), p. 245.

292. Binns, Agricultural Credit for Small Farmers, p. 24 f.

the rate of interest cited above, such a procedure would seem impractical in most underdeveloped nations.

A second suggestion would seem to hold more promise. A system of compulsory registration and inspection could be established. At the same time a license fee would be prescribed. The unlicensed moneylender would be debarred from recovering sums owing him in the courts (or at least interest), and that disability in the courts would be absolute, and not remedied by subsequent registration. Registration and inspection would tend to encourage better record keeping and to regularize the activities of the moneylender. A license fee would have the effect of keeping the smallest--and most usurious--moneylenders out of business. Subsequent legislation might then successfully impose interest limits. Violation of the moneylending regulations would lead to deregistration and consequent closing of business. A start on a program of this sort is reported from India where elaborate laws regulate the activities of moneylenders, and protect debtors. The Reserve Bank of India has indicated there are important "difficulties in the way of enforcing the regulations," and some shrinkage of credit as a result "cannot be discounted."[293]

Special governmental programs utilizing supervised credit. Because of the importance of credit to agriculture and the generally unsatisfactory credit arrangements available to small cultivators, governments in many underdeveloped areas are pursuing their own programs designed to provide credit at reasonable rates of interest and on terms which meet the needs of cultivators.

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293. Ibid., p. 25.

Binns[294] points out that in underdeveloped areas, it is not only the gross amount of resources which can be made available to cultivators which is important, but also the proper application of the resources. Because low income farmers generally have little equity and little knowledge of the use of resources, those interested in reducing the high fixed costs of operating capital in underdeveloped areas are turning more and more to attempts to encourage supervised credit. This is in part due to the success of economically more advanced countries, particularly the United States, in using supervised credit to help low-income farmers who are not reached by ordinary channels of credit.

Because of their low equity and their low incomes, personal security is frequently the sole form of security available from vast numbers of small cultivators in underdeveloped areas. In order to utilize this security, however, some means of evaluation is necessary. Of course, in the final sense, the only guarantee in any credit transaction is personal integrity; but collateral pledged to back up this personal security is conveniently assessed and offers some means of recovery if the debt is not discharged. The use of collateral also has the advantage of making the floating procedure relatively inexpensive.

In cases where there is no suitable collateral, other means must be devised to guarantee credit. One method, analogous to collateral signatures used by banks in more developed nations, is "collective personal security." By this system, a voluntary group of borrowers is formed and a joint bond is prepared under which each borrower receives a separate loan

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294. Ibid., p. 21.

for which the whole group is liable. Binns[295] reports "this method has been applied widely and successfully to transactions with groups of tenant farmers and others who find it difficult to offer material security." The most widespread application of this principle in underdeveloped areas has been in connection with more formal credit co-operatives.

In theory, credit for operating capital is expected to be repaid from the enhanced earnings made possible by the resources which the credit enables the cultivator to command as a result of the credit. Collateral is only an efficient, inexpensive means to secure this credit; the collateral itself is very often unrelated to the use to which the credit will be applied. An alternative to pledging material collateral is involved in the concept of supervised credit. In this instance, the loaning agency controls the expenditure of the funds it loans to the extent necessary to assure the resources will, in fact, earn the return of which they are capable.

It is obvious that supervised credit is considerably more expensive and difficult to administer. The lender must have a very detailed knowledge of the earning capacity of the farm to which the cultivator plans to apply the new resources. To evaluate this earning capacity properly, it is necessary to outline the more promising alternative development possibilities, to estimate the probable earnings under each alternative, and to select that plan best suited to the individual circumstances. This plan, as Brinser and Wheeler[296] point out "is essentially a calculus of the

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295. Ibid., p. 18.

296. Brinser and Wheeler, op. cit., p. 244.

present and future marginal productivity of both capital and labor on the farm." The lender then must make sure that the resources loaned are, in fact, utilized by the cultivator to further the development of his farm along the lines outlined by the farm plan. This is necessary in underdeveloped areas in part to make sure the loan funds are not diverted for some other purpose, but primarily because cultivators lack knowledge with which to apply the plan and must rely on help from the supervisor. The plan, then, becomes the security for the loan in a very real sense. Brinser and Wheeler,[297] recognizing the objection to such loans as being the feeling they are not "properly secured," comment:

> The farm plan is . . . a device that spells out just what such security is, and channels the effort of the farmer into the productive work which for any loan is the only real security from all points of view. It substitutes for the illusory security of foreclosure the real security of an increased earning capacity.

The important drawback to supervised loans is, of course, the high cost and the lack of administrative personnel. If large numbers of individuals in an underdeveloped area are to be reached, simple procedures must be devised. Maddox[298] has suggested some of the simplifications which could be used in underdeveloped areas. "When working with a small farm of from 2 to 4 hectares," he advises, "one should ask the farmer to change about three or four important practices." He suggests first to emphasize the

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297. Ibid., p. 258.

298. James G. Maddox, quoted in Thomas C. Blaisdell, Jr., Elizabeth K. Bauer, Henry E. Erdman, and Irving F. Davis, Jr., Farm Credit in Underdeveloped Areas (Berkeley: University of California in cooperation with the Foreign Operations Administration, the Department of State, and the Department of Agriculture, 1953), p. 57.

use of insecticides and fungicides; the amount of money involved is relatively small in relation to the protection afforded. Second, farmers should be asked to use a small amount of commercial fertilizer, when available. Third, farmers should be asked to plant improved varieties of seed, if available. Fourth, ask the farmer to cultivate his soil better and in a more timely manner than he does generally, if his farming techniques can be improved. Maddox suggests it "does not require a great deal of planning to get these four practices into operation with a co-operative farmer."

To carry out a program of supervised loans, it would be necessary to have a field force of supervisors. Binns[299] reports one private credit institution of "long experience" provided one "'supervisor' of superior clerical status to every 5,000 acres." Binns also suggests a means to cut down costs of supervision and to use highly trained personnel as effectively as possible is to use as supervisors reliable local people who will work for less pay, but to restrict the handling of money to higher paid officials. "In fact," Binns suggests, "it may be highly dangerous for repayments to be received by any individual, other perhaps than an elected official of a co-operative society or a really responsible officer of a bank." Another alternative where available is to have the repayment made through a postal money order system. In any event, close local supervision is an essential part of the program. One of the weaknesses of the traditional village moneylender is he is not prepared to supervise the loans he makes.

Agricultural credit of the sort suggested in programs of supervised

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299. Binns, Agricultural Credit for Small Farmers, p. 20 f.

credit is often costly. The making of small loans involves considerable time in relation to the size of the loan. Collection costs are likely to be high, and, of course, the supervision itself, even the simplest kind, is expensive. In Brazil and Venezuela, Maddox[300] reports the cost of supervision is some $100 per year on loans which average $600 to $700. If a farmer is to bear all this cost the rate of interest would be very high (although perhaps no higher than he would have to pay a village moneylender with a very much lower chance of getting out of debt). One important advantage of supervised loans, however, is the credit institution becomes a means of reaching the low-income farmer with information about better farming techniques and a strong motivation to use them. A number of authorities have suggested, therefore, that part, at least, of the supervision costs could be borne by the nation as part of the expenses of the extension service. This is being done in a number of underdeveloped nations. In Brazil and Venezuela, for example, the credit and the extension functions of a government program are combined. Maddox[301] reports "our technicians are doing regular extension-type work half of the time and the other half they are working out detailed plans and getting loans for borrowers under the supervised credit program." In other areas, the cost of supervision in the credit program is borne directly by the government, and considered an educational expense.

A number of South American nations have governmentally sponsored programs of supervised credit in operation. In Mexico the National Bank of

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300. Maddox, op. cit., p. 60.

301. Ibid.

Ejidal Credit loans to members of ejidos on the basis of a farm plan. In Honduras the National Bank of Development is conducting an experimental supervised credit program, and reports borrowers, principally tenants, "have maintained a very good repayment record" with less than 5 per cent of the loans in default. In El Salvador the Institute of Rural Colonization grants farmers small amounts of credit secured only by farm plans. In Costa Rica the National Bank of Costa Rica, through 38 Rural Credit Boards, loans to small and middle income farmers. Each Board has an agricultural engineer who supervises the loans. In Venezuela and Brazil a system of supervised credit has been introduced in which the technical service is separate from the lending institution, although the same field men represent both functions. A team of supervisors--an agronomist and a home economist--service 75 to 100 loans, give reasonably close on-the-farm advisory service to about 100 additional families, and carry on meetings, demonstrations, and classes which reach 500 other families. In Paraguay, the Credito Agricola de Habilitacion serves approximately one out of every eight farm families with co-operative credit. Other programs operate in Peru, Bolivia, and Uruguay. Rates of interest under these programs are some 6 to 8 per cent. In the underdeveloped regions of Asia, co-operative credit societies seem to be the favored means of attempting to overcome the high fixed cost of operating capital.[302]

From experience in working with rural credit in underdeveloped areas have come a number of guides to arranging suitable individual credit which has the most chance of succeeding in helping the individual farmer and

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302. Blaisdell, et. al., op. cit., p. 64 ff.

establishing a going credit program.

Since a credit program is credit and not relief, a first consideration generally agreed upon by various authors with experience in underdeveloped areas is that farmers must be expected to repay their loans. The relief and the loan programs must be strictly separate, and credit, while it may be granted as part of an emergency program, must be granted only to cultivators whose farm plan indicates they can repay. This may not rule out the issue of loans free of interest, but outright relief and grants-in-aid should not be treated initially as loans.

Although farm plans may help secure loans from the lenders' point of view, if the program is to continue to operate successfully, the borrowers must learn more about the functions of credit if they are to take advantage of a credit program. They should have some idea of the factors determining the profitableness of credit, the terms which can be devised to fit their needs, the sources from which they may borrow and how to compare the terms offered by each, the reasons for and significance of the papers they sign, and the value of a good credit rating. A national rural credit program must reach farmers where they are, and Binns[303] suggests the actual transaction may well be carried out on the cultivator's farm, or at least in a nearby village.

Interest rates which are too low may jeopardize the program by imposing too heavy a strain on the nation for administrative costs. Rates of supervised credit in many areas are in the neighborhood of 8 per cent, and

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303. Binns, Agricultural Credit for Small Farmers, p. 20.

Binns[304] suggests the minimum practicable rate in parts of India might well be as high as 15 per cent. This still would be well below the rate for similar loans from village moneylenders. With adequate farm plans and supervision money loaned at such rates would still enable the cultivator to repay his loan and increase his personal income.

Individuals who assess the farm plans should be careful not to lend money for a period longer than the life of the asset for which the loan is floated. This would, of course, be avoided with an adequate farm plan. In several underdeveloped areas, legislation has been passed to keep the length of the loan to a reasonable time. In Pakistan, for example, cultivators may not mortgage their crops for more than one year in advance.[305] Any credit plan which is secured in part by material collateral should be planned to protect the farmer's equity in his holding to the greatest possible extent.

On the other hand, the loans extended must be long enough to enable the new asset to become productive before repayment is due. Amortization payments and interest should come at regular intervals if the loan is to be paid back in more than one payment. Such payments should be due at a time when the farmer has the money available, perhaps at harvest time, although due consideration must also be given to the need to improve marketing procedure by allowing cultivators to hold their crops beyond harvest. Repayment schedules for loans extending over a period of several harvests

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304. Ibid., p. 12.

305. United Nations Department of Economic Affairs, Progress in Land Reform, p. 130.

should be flexible in order that the cultivator may pay back more when harvests are good than when they are poor, although this is less important in the case of operating capital than in purchase payments for ownership rights. More important may be some system of progressively larger payments to enable the farmer to pay more and more as his new productive assets become more productive. If some provision is included for flexible repayments, then it will be possible to establish a reputation for rarely postponing payments without causing undue hardships, an essential consideration if the rural credit program is to gain the respect of the populace and be successfully established on a continuing basis.

Loans should be adequate to meet the needs of the farm plan outlined, and if the plan calls for further commitments at a later date, such credit should be assured, subject to restrictions of good faith.[306]

A difficult, but crucial point in underdeveloped areas, is raised by Binns[307] who recommends that any loan granted a cultivator be large enough to cover all his needs for credit, and to consolidate his debts if possible. One kind of nonagricultural credit he suggests is credit to allow cultivators to establish cottage industries to keep themselves productively occupied in periods of underemployment. Although nonagricultural, this credit need is, nonetheless, productive and is not difficult to justify. Co-operative societies are probably the best administrative device to encourage such industries. Credit must also be available to enable the cultivator to provide food for himself and his family between harvests if

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306. Brinser and Wheeler, op. cit., p. 245.

307. Binns, Agricultural Credit for Small Farmers, p. 4 ff.

necessary. But the thorniest problem is that of credit for domestic and religious ceremonies. To the extent such expenses can be held down for farmers who have received a supervised loan, agricultural development would seem to be furthered. But at the same time, such expenses are a definite part of the cultural pattern of the cultivator, and exert a very keenly felt claim. If a rural program fails to recognize these needs, farmers may borrow freely from village moneylenders to meet these expenses, and such local sources often are in a position to siphon off any profit made by the cultivator, causing him to default on his production loan. The solution to such problems seems in part to attempt to reduce the force of such ceremonial claims, in part the organization of such co-operative forms as "Friendly Societies," and in part instituting control over village pawnshops, moneylenders, etc., which grant credit for ceremonial purposes.

The use of agricultural credit for direct consumption has been a problem in certain areas in the past, and has been overcome by loans in kind or loans in the form of a purchase voucher. Such practices are used in India, Formosa, Egypt, and Puerto Rico where small farmers may receive "credit in kind, through co-operative organizations." In some areas, repayment in kind is also practiced, particularly where rice is a principal crop.[308]

From the standpoint of national organization, the most common administrative procedure of granting rural credit seems tc be some type of rural

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308. United Nations Department of Economic Affairs, Progress in Land Reform, p. 221.

bank or development bank. For this bank to operate, however, a central bank of some sort is a necessity. In some countries the rural credit is provided by a section of the central bank. In any event, the remoteness of the farmer from the large urban centers means branch banks and local agencies will be necessary, and these must become identified in the minds of the cultivators as being local institutions.[309] Generally those institutions which have a quasi-independent status operate most satisfactorily. These institutions float loans in the urban sector of the economy by issuing bonds, or else secure funds wholly from the government.[310]

From the standpoint of fiscal policy, nations which are attempting to foster economic development in part through a policy of supervised agricultural credit should recognize a fiscal policy of debt reduction may reduce the funds available to small farmers and raise interest rates substantially. A tight credit policy may mean a chronic insufficiency of credit for small farmers. In both instances, the small farmer may bear the brunt of such measures. Credit should be expanded at harvest time to allow both merchants handling the crop and farmers to secure the credit necessary for orderly marketing. Lastly, it must be recognized that a program of rural credit cannot be used as an instrument of party politics if it is to succeed on a continuing basis.[311]

Co-operative credit societies. A widely used and recommended

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309. H. Belshaw, The Provision of Credit with Special Reference to Agriculture (Cambridge, Eng.: W. Heffer & Sons, 1931), pp. 86 ff.

310. Binns, Agricultural Credit for Small Farmers, p. 566.

311. Belshaw, op. cit., p. 101.

means to provide credit for small farmers is the co-operative credit society. Experience with credit co-operatives in underdeveloped nations has been unhappy in many instances, and many authors feel pessimistic about the possibilities of credit societies as means of overcoming problems of credit for the small cultivator. Although recognizing the difficulties, Binns[312] still concludes that co-operatives "in theory . . . are the best possible form of credit institution for the small farmer," and that, despite failures, the co-operative is "so potentially valuable" as a means of providing credit for small farmers that the attempt to develop it "should usually be made."

Belshaw[313] suggests the aims of co-operative credit in underdeveloped countries should be as follows:

> (1) To promote thrift so as to increase the supply of funds. Agencies are needed in the rural areas where the farmer can make both deposits and withdrawals easily.
> (2) To draw on resources outside the locality. If central or apex banks can be built on the primary thrift and credit societies these agencies, using such means as improved discountable paper for marketing, may attract the resources of the reserve and commercial banks when the small local thrift and credit societies might not be able to do it.
> (3) To promote the effective use of loans and to reduce risks in the granting of loans by careful and continuous supervision.
> (4) In consequence, to reduce risk to lenders or the credit co-operative by careful and continuous supervision.
> (5) By these means and by low costs of management to keep the cost of credit as low as possible.
> (6) To endeavor to make societies so creditworthy that they can obtain sufficient funds to help finance other cooperative undertakings.

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312. Binns, Agricultural Credit for Small Farmers, p. 566.

313. Horace Belshaw, "Cooperative Credit," in International Conference on Agricultural and Cooperative Credit, Proceedings, Vol. 1 (Berkeley, California, August 7 to October 2, 1952), pp. 369-378.

If credit co-operatives are to be successful in achieving their aims in underdeveloped countries, it would seem active government help will be necessary. Conditions do not seem favorable for the spontaneous development of co-operatives such as occurred in Europe, and, in addition, much more rapid extension of credit facilities seems desirable than would be the case if the movement were forced to grow unaided. Indeed, the United Nations Department of Economic Affairs[314] suggests that given the conditions present in underdeveloped countries "it is unlikely that the movement will ever gain sufficient strength if it is left to grow on a voluntary basis." It also seems likely that government help in securing funds for loans will be necessary in underdeveloped nations. Since farmers in underdeveloped areas have very little, if any, savings from which the co-operative can draw, at least at first, if there is to be substantial and rapid growth outside funds will be necessary. Without government capital, deVries[315] predicts credit co-operatives in underdeveloped areas will probably grow "almost too slowly to be counted successful."

Co-operative societies have several advantages over other forms of organizations which supply credit to small farmers. Being operated by local directors, they have close knowledge of the character and abilities of their members and of local production possibilities. Since much of

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314. United Nations Department of Economic Affairs, Land Reform, Defects in Agrarian Structure as Obstacles to Economic Development, p. 77.

315. Egbert deVries, quoted in Thomas C. Blaisdell, Jr., Elizabeth K. Bauer, Henry E. Erdman, and Irving F. Davis, Jr., Farm Credit in Underdeveloped Areas (Berkeley: University of California in co-operation with the Foreign Operations Administration, the Department of State, and the Department of Agriculture, 1953), p. 31.

their work is performed voluntarily, they have low overhead costs. They can be organized on an extensive basis to reach farmers in every village in a nation more easily than many other forms. Finally, because of their local character, they can "instil in members strong feelings of responsibility for prompt payment of interest and repayment of loans," and at the same time encourage thrift and saving.[316]

Co-operative credit of various sorts has been important in the agricultural development of Western nations. In Luxembourg, the Netherlands, and Switzerland co-operatives provide a major part of the entire credit needs of farmers. In most other countries, co-operatives are major sources of credit, being especially well adapted to administer short-term and medium-term credit and to mobilize for productive use the savings of small farmers.[317]

In the United States the Production Credit Association system represents a co-operative form of credit closely linked with the government. There are 12 Production Credit Corporations which are wholly government-owned and 499 affiliated Production Credit Associations. The Production Credit Corporations organize Production Credit Associations, provide supplemental capital, and supervise the associations. The Associations operate on the local level under the direction of the local board of directors. These local Associations are intended to be borrower-owned, and as of January 1, 1953, 56 per cent of the Associations had retired all of their

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316. United Nations Department of Economic Affairs, Rural Progress through Co-operatives (New York: United Nations Department of Economic Affairs, 1954 [United Nations Publications Sales No. 1954.II.B.2]), p. 41.

317. Ibid., p. 42.

government-owned stock. The Associations are operated by a paid staff who conducts the loan operations, but all loans are approved by the directors. The main purposes of the loans include breeding, raising, and fattening of livestock and poultry; dairying; growing, marketing, and harvesting of crops; the purchase and repair of farm machinery; refinancing short-term debts; and supplying other farm and family credit needs. The loans are usually for a period of 1 year or less, and security is usually offered in the form of chattel mortgages on crops or livestock. The Production Credit Associations obtain loanable funds by discounting their members' notes with the Intermediate Credit Bank of the district. There are 12 of these banks, wholly owned by the government. They sell consolidated collateral trust debentures (i.e., joint obligations of all 12 banks) in the investment market. The obligations are not backed by the government, but are backed by the notes of the agricultural borrowers and the capital and reserves of the banks.[318]

Credit co-operatives have been used with varying success in several underdeveloped nations. In Japan, credit co-operatives backed by government financial resources now handle "practically all short-term agricultural credit operations." They obtain loanable funds by rediscounting agricultural bills with the Bank of Japan.[319]

In Thailand, "unlike other countries in southeast Asia," Jacoby[320]

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318. Blaisdell, et. al., op. cit., p. 24 f.

319. United Nations Department of Economic Affairs, Progress in Land Reform, p. 226.

320. Jacoby, Agrarian Unrest in Southeast Asia, p. 239 f.

reports, credit co-operatives have operated "successfully to a certain extent." Semthiti[321] reports that by the end of 1950, 7,631 credit co-operatives with 143,136 members had loans in force of 103 million baht. It is difficult to determine what percentage of the total agricultural debt this represents, but Semthiti reports the co-operatives "could render service to only about 10 per cent of the total rural population." In 1934 when there were less than 900 societies, co-operative credit represented 2 per cent of the total agricultural debt; at that time nearly three-fourths of all new loans were used by cultivators to pay off debts to Chinese moneylenders.[322] By 1950, 11 per cent of all loans in force had been used to pay off previous debts.[323]

Since 1943 the co-operatives have secured most of their loanable funds through the Bank for Co-operatives and the Department of Co-operatives of the government. They pay 6 per cent for these funds, and in turn loan to members at 8 per cent for long-term and 10 per cent for short-term loans. The government raises loanable funds by the issue of co-operative bonds to the public at 4.5 per cent. Deposits have not been stressed because of the shortage of technical staff needed to handle them, and in 1950 represented only .43 per cent of the working capital of the co-operatives.[324]

Security requirements are rigid. Individual member-borrowers are required to provide two guarantors who are also members, and must mortgage

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321. Semthiti, op. cit. (unpaged).

322. Jacoby, Agrarian Unrest in Southeast Asia, p. 241.

323. Blaisdell, et. al., op. cit., p. 48.

324. Ibid.

all his lands to the society. Landless farmers are admitted and can borrow money only if a land mortgage is furnished by a guarantor. The government feels this is not too serious a drawback, however, because of the relatively few tenant farmers in the country.[325] Members are collectively liable for all debts of the society.[326]

Loans for ceremonial purposes are granted for periods up to 2 years, but only .37 per cent of the money loaned in 1950 was for this purpose.[327]

Although "the credit system of Thailand leaves a great deal to be desired,"[328] and "the scale of cooperative operations must not be overestimated,"[329] nevertheless, Jacoby[330] concludes that there is "no doubt" that credit co-operatives are "the most promising aspect" of the Thai economy.

The experience of Japan and Thailand, and to a lesser extent that of India where in 1950-1951 there were 116,500 primary credit societies with 12.6 million members,[331] indicates co-operatives have an important potential for supplying the credit needs of agriculture in underdeveloped countries. Yet the possibilities should not be exaggerated. As the United Nations Department of Economic Affairs[332] is careful to point out, co-operatives in

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325. Ibid.

326. Semthiti, op. cit. (unpaged).

327. Blaisdell, et. al., op. cit., p. 48.

328. Semthiti, op. cit. (unpaged).

329. Jacoby, Agrarian Unrest in Southeast Asia, p. 241.

330. Ibid.

331. United Nations Department of Economic Affairs, Rural Progress through Co-operatives, p. 43.

332. United Nations Department of Economic Affairs, Land Reform, Defects in Agrarian Structure as Obstacles to Economic Development, p. 42.

underdeveloped areas have made "limited progress." This is due not to technical difficulties nor to the lack of administrative personnel. The causes "lie deeper." They arise from the "chronic insufficiency of the farmers' income, and the consequent tendency of consumption to outrun production."

An examination of the success elements in the co-operative movement where it has been successful gives indications of means of strengthening credit co-operatives in other areas. Binns[333] notes co-operative credit institutions will "only work well where the underlying principles of such institutions are thoroughly comprehended and will be applied naturally by members of the societies." Co-operative credit societies cannot exist as an "exotic plant." Too rapid a mushrooming of the co-operative movement is to be avoided. It would seem best "at least during the educative state," that co-operatives have unlimited liability. This will tend to make directors careful and tie member-borrowers closely to the day-to-day activities of the society.

Co-operative societies to be most successful, contrary to the best practice in the West, should probably be multipurpose. At least they should combine marketing with credit. Several single-purpose co-operatives in one village in underdeveloped countries with low levels of literacy and education represent too complex an innovation and too heavy a drain upon the administrative personnel. Jacoby[334] insists that:

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333. Binns, Agricultural Credit for Small Farmers, p. 23.

334. Jacoby, Agrarian Unrest in Southeast Asia, p. 23.

> In the future, these cooperatives must be a combination of marketing and credit societies which will regulate the credit accounts of the members from the returns of the marketing transactions and thus carry out an economic supervision of the peasant household.

Certain marketing facilities, such as warehouses, may even be provided by the co-operative societies, increasing the return to the farmer by instituting a more orderly marketing system.

(Other kinds of co-operatives or multi-purpose co-operatives embracing other activities also offer promise of furthering agrarian development, principally through improving production processes. A discussion of these forms of co-operative action, as well as more detailed discussion of marketing activities, is beyond the scope of the present study.)

Reducing high fixed costs to the owner

High fixed costs which fall upon the owner may take two major forms: high interest rates on long-term capital, or high taxes. Although the types of remedial measures which will overcome each of the two forms are different, the kinds of resource inefficiencies engendered are related.

High fixed costs to the owner within the framework of the necessary conditions for economic development. The effects on resource allocation of high interest rates on long-term capital tend to be of the sort which discourage capital investment and to favor production programs and crops which are projected over a shorter time and are labor-intensive. Excessively high tax rates or inequitably levied taxes will also tend to reduce the capital investment in the farm firm, will shift the resource allocation to shorter term enterprise combinations, and will reduce incentives for investment. "A severe burden of taxation can inhibit" private investment in agriculture, reducing potential production, according to

Raup.[335] If taxes are not adjusted according to cropping conditions as they vary from year to year, an added element of uncertainty may be injected into the farm planning operation, causing farmers to choose an enterprise combination with greater stability over time, although perhaps at the expense of a smaller total production. It will be seen that adjustments of the sort indicated will reduce labor efficiency on individual farms.

The problem of determining just what level of taxation is to be considered excessive is difficult, just as the problem of determining what is to be a high level of interest is difficult. Certain rules of thumb can be suggested, however. It would seem that within the framework of means-ends continuum relating to economic development which includes a more widespread per capita distribution of goods and services regressive taxes which bear more heavily upon cultivators with small incomes than upon cultivators or landlords with relatively high incomes would be of the sort which might cause resource inefficiencies. Likewise within the framework, taxes which drive levels of living below the subsistence norm would seem to be excessive. Taxes which are set at levels higher than the marginal value product of land would seem another rather clear-cut instance, though probably of relatively uncommon occurrence. Perhaps the best working definition of high taxes would relate more to the effect of the total tax burden upon resource allocation in relation to more desirable means of

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335. Philip M. Raup, "Agricultural Taxation and Land Tenure Reform in Underdeveloped Countries," in Conference on Agricultural Taxation and Economic Development, Papers and Proceedings (Cambridge, Massachusetts, January 28 to February 3, 1954), pp. 245-269.

assessment and collection. For example, taxes stated in fixed monetary terms on land units may be excessively heavy in times of poor prices and of unimportant significance in times of high prices. Taxes levied on a presumptive basis may not be adequately related to actual incomes. Or taxes which penalize added income from agrarian development or reduce incentives for capital investment below the level which more suitable alternatives might make possible could be considered high.

Raup[336] suggests the actual level of agricultural taxes which are set--aside from the means of allocating the taxes among individuals--may well be determined by the desired flow of capital into agriculture. "If the flow is to come via the individual farmer," he suggests, "taxes should not be so high as to prevent individual producers from accumulating capital for investment in their enterprise." He continues that the problem becomes "acute" in programs of transfer aimed at creating a system of privately owned and operated farms. "To proceed with reforms of this nature, and at the same time to lay plans for large-scale internal capital transfers out of agriculture for industrialization," Raup warns, "is to invite the failure of both policies."

The resource inefficiencies engendered by the high fixed costs to the owner require adjustments in economic and social institutions to move toward fulfillment of the necessary conditions for economic development.

One peculiar problem associated with high fixed costs for owners is the problem of the most economic level of conservation. Bunce[337] shows by

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336. Ibid., p. 262.

337. Arthur C. Bunce, The Economics of Soil Conservation (Ames: The Iowa State College Press, 1942), 227 pp.

his analysis that the most economic level of soil conservation varies with the rate of interest, and, in general, assuming costs and prices remain stable over time, the higher the interest rate, the lower the most economic level of soil conservation from the standpoint of the individual owner. When the interest rate at which money for conservation purposes is available to the individual owner is higher than the interest rate for such purposes for which capital is available to the society as a whole, there may be an inefficient allocation of resources. To the extent appropriate social and economic adjustments can be made which can reduce the rate of interest for capital needed to institute a conservation system on a holding, resource inefficiencies may be reduced. This may involve a number of the kinds of means suggested in other discussions relating to capital. (It may be noted that the prices of certain kinds of resources are available to the individual operator in underdeveloped countries at a lower, not a higher, cost than they are available to the government. When there is underemployed labor which can be used to institute a conservation program, the marginal cost to the owner may be very little, and such conservation would be economic. In this instance, it may take greater knowledge--i.e., fulfilling the necessary condition of economic development relating to more widespread dissemination of information.)

The resource inefficiencies engendered by high fixed costs to the owners in the form of taxes are not limited to owner-cultivators. In many underdeveloped countries the power position of the landlord in relation to his tenants is such that a tax on land can be shifted to the tenant cultivator. This may tend to cause resource inefficiencies which can be avoided or reduced by establishing effective rent maximums in order to levy the

burden of land taxation on the landlord and to prevent his passing the levy on to the cultivator.

Present situation in underdeveloped countries with respect to high fixed costs to the owner. The present situation in underdeveloped countries with regard to levels of rates of interest has been discussed earlier.

With regard to taxation, two systems of agricultural taxation are generally in use in underdeveloped nations. Under one system, taxes are levied on farm land according to tax rolls based on the assessed income or value of land. In the very general absence of adequate land registration, this method is presumptive in underdeveloped countries. A variety of bases for assessing these agricultural taxes is used in various countries. Most frequently it is the area under cultivation, but sometimes it may be the method of cultivation and the area irrigated as was the case in Iraq; the number of harvests or the presumed yield, as was the case in Morocco and Palestine; the type of products and their prices in local markets, as is the case in Madras and the Punjab; or simply the presumed value of the land (generally based on rental revenue) as is the case in the larger Latin American countries and in the Middle East.[338] Since the assessments under this form of taxation, even when based on a cadastre, are revised infrequently--only every 30 or 40 years in Egypt and India, for instance--this method of collecting taxes tends to become out of accord with real income and value. It generally lacks features of progressivity, provisions for exemptions for low incomes, family responsibilities, and the like, or for

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338. United Nations Department of Economic Affairs, Land Reform, Defects in Agrarian Structures as Obstacles to Economic Development, p. 44.

flexibility for fluctuations in annual incomes.

Traditional taxes on the cultivation of land are levied in India, Burma, Pakistan, and Indonesia. The Philippines has a general tax on real property.

With the inflationary effects since World War II the burden of land taxes in these areas has been reduced. Contrasting the combined revenues of state and central governments in Pakistan and India, for instance, the share of land taxes has been reduced from 12.7 per cent of total revenue in 1938-1939 to about 5.4 per cent in 1949-1950.[339] Even so, the Fiscal Department, Department of Economic Affairs, United Nations[340] suggests the taxes fall with enough force on subsistence cultivators that there is a danger of depleting "the human capital which is simultaneously the end and means of economic development."

A second method of agricultural taxation in widespread use in underdeveloped nations is to assess agricultural produce, generally that which is marketed rather than that which is produced because of the difficulty of assessing total farm output and the inaccessibility of farming areas. The Fiscal Division notes that heavy taxes on commodities are "one of the most characteristic features of the tax structures of the underdeveloped countries of South-East Asia." Although in the United States such indirect taxes account for only about 30 per cent of total tax revenues, in

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339. Fiscal Division, Department of Economic Affairs, United Nations, "Taxation and Economic Development in Asian Countries," in Conference on Agricultural Taxation and Economic Development, Papers and Proceedings (Cambridge, Massachusetts, January 28 to February 3, 1954), pp. 86-109.

340. Ibid., p. 106.

Japan they account for 50 per cent, in India about 66 per cent, in Pakistan about 75 per cent, and in most other southeast Asia nations nearly 80 per cent. The bulk of these taxes is secured through customs duties, the more important being import duties, but a substantial portion is derived from export duties. In recent years these export duties have ranged up to 40 per cent of total tax revenues due to the rise in raw material prices during the Korean conflict, but the returns are substantially down now. In Haiti, El Salvador, Mexico, and Cuba export duties have constituted 20 per cent of total tax revenues recently.

The two major food exporting countries of Asia, Thailand, and Burma both derive an important portion of their total incomes from their state monopolies on rice exports. In Burma the profits of the State Agricultural Marketing Board are the most important single source of revenue, and account for about 40 per cent of total revenue. In Thailand, the Rice Bureau contributes more than 10 per cent of total tax revenue. Their profits are derived, of course, by paying domestic producers at a rate very much below the current international market prices at which rice is exported.[341]

One problem associated with the high level of taxation in underdeveloped countries is the tendency for taxes to weigh more heavily on the rural than the urban population. In part this arises from the relative ease of taxing visible agricultural produce as compared to taxing invisible commercial or industrial profits or urban incomes. Likewise, social and educational services are likely to be better developed in urban centers

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341. Ibid., p. 91 f.

than in rural areas. The United Nations Department of Economic Affairs[342] cites surveys in Japan and India to support this point.

Remedial alternatives

Government-sponsored and co-operative long-term credit. The remedial alternatives to reduce the high cost of long-term capital are similar in most respects to those measures discussed earlier in connection with long-term credit to facilitate ownership transfer and with the high fixed costs of operating capital. Comparable adjustments in economic and social institutions will be necessary to overcome the high fixed cost of long-term capital.

Improving equitability of agricultural taxation. The inequitabilities of the land tax are widely recognized. To help improve equitability of the tax burden, the governments of India and Pakistan have introduced income taxes against previously exempt agricultural incomes and have introduced progressive surcharges on the land tax. Nonetheless, the still considerable volume of revenues from the tax and the long-established rural machinery for its administration appear "to have prevented any large-scale changes in the system towards lifting the burden on subsistence cultivation."[343]

Income taxes are levied in Pakistan, India, Ceylon, Burma, Malaya, the Philippines,[344] Argentina, Brazil, Chili, Cuba, El Salvador, Haiti,

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342. United Nations Department of Economic Affairs, Land Reform, Defects in Agrarian Structures as Obstacles to Economic Development, p. 45.

343. Fiscal Division, Department of Economic Affairs, United Nations, "Taxation and Economic Development in Asian Countries," p. 106.

344. Ibid., p. 95.

Mexico, Egypt, and Lebanon.[345]

The use of income taxes to improve equitability of agricultural taxation and at the same time to further economic development seems to hold important promise for further investigation and application.[346] Other means of improving the equitability include attempts to bring presumptive assessments more nearly in line with actual conditions, and direct tax relief to small farmers such as the remission of taxes to small farmers in Egypt.[347]

Changes in tax structure to provide incentives. An important adaptation of the tax structure to reduce inefficiencies of resource allocation relates to changes in tax structures to provide incentives (or disincentives). Taxes may be considered as either negative in their effect, implying a measure to discourage some form of land ownership or agricultural activity, or as positive, implying a tax which would encourage particular tenure and use conditions or resource allocations.

Heller [348] suggests a number of different adaptations of the agricultural taxation system to distribute the total burden of taxation in such a

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345. Heller, op. cit., opposite p. 156.

346. Walter W. Heller, "The Adaptation of Income Taxation to Agriculture in Underdeveloped Countries," in Conference on Agricultural Taxation and Economic Development, Papers and Proceedings (Cambridge, Massachusetts, January 28 to February 3, 1954), pp. 270-282.

347. United Nations Department of Economic Affairs, Land Reform, Defects in Agrarian Structure as Obstacles to Economic Development, p. 47.

348. Walter W. Heller, "The Use of Agricultural Taxation for Incentive Purposes," in Conference on Agricultural Taxation and Economic Development, Papers and Proceedings (Cambridge, Massachusetts, January 28 to February 3, 1954), pp. 222-244.

manner as to promote various kinds of resource allocations considered desirable by the society. They may be grouped as the use of taxation structures for the following purposes:

1. To increase incentives to work. These may take the form of reductions of high marginal rates of income or produce taxes or, more frequently, of replacing taxes which respond directly to the size of gross or net output with taxes which are fixed in amount or only indirectly responsive to changes in output. The goal of these policies is to levy taxes in such a manner as to leave the rewards for additional effort undiminished. South Korea levies its land income tax on the basis of a standard assessment keyed to the average or normal productive capacity and exempting output which exceeds the average. Yugoslavia in its reply to the United Nations land reform questionnaire[349] indicated its intention of substituting income taxes with taxes to be paid on the basis of "the surface and quality of the land." A quite different approach is the one attempted in Africa where a cash head tax was levied in such a manner as to force individuals to work in order to pay it, either by additional effort expended on cash crops or by working for wages in urban areas. This kind of incentive taxation may well induce inequities which are unacceptable in the value system of the

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349. United Nations Department of Economic Affairs, Progress in Land Reform, p. 263.

underdeveloped countries and which may inhibit rather than encourage agrarian development.

2. To increase incentives to invest. This is one of the most important kinds of adjustment in the tax structure of underdeveloped nations when the goal is to reduce resource inefficiencies engendered by high fixed costs due to taxes. This deals with longer run incentives than that covered in the previous point. In Australia and New Zealand graduated taxes are imposed on the unimproved value of land. In addition, New Zealand grants liberal depreciation allowances for initial land development expenditures such as clearing, exterminating weeds, building access roads and fences, draining swamps, and for costs of plant, equipment, and buildings to house employees. Reclamation of waste land by irrigation, drainage, clearance, and so forth is promoted on Formosa, certain Indian states, Belgium, Chile, Iran, Iraq, and Portugal by special treatment under land and property taxes. Malaya levies a special penalty tax to force investment in the form of an excise tax on rubber marketed from plantations which fail to replant a specified percentage of their acreage annually. In turn, the proceeds of this tax are used to subsidize plantings by owner-cultivators.
3. To discourage undercultivation. Special penalty taxes have been enacted in a number of Latin American states to encourage landowners to put idle land into cultivation and to overcome resource inefficiencies engendered by lower uses of land

arising from the pattern of ownership. Panama has a progressive surtax on untilled land, Brazil levies penalty taxes on lands not fully used for some branch of agriculture, and the International Bank mission to Colombia proposed a steeply progressive tax levied inversely to the ratio of actual net income from the land to its current market value. The lower the rate of return in this latter instance, the higher the rate of the tax was to be. In Denmark land values are assessed in relation to the yield that could be obtained by an economically sound use of land instead of the actual yield. Several provinces of Argentina tax land at progressive rates (rising to as high as 2.5 per cent in Buenos Aires) on assessed values based on average presumptive income of land capitalized at current interest rates.

4. To channel agricultural resources into particular crops. Although bearing a relationship to the taxes suggested above, these measures are designed not so much to penalize nonuse of land as to encourage shifts into certain crops which better serve national economic development ends-in-view. These may encourage export crops which are a lucrative source of foreign exchange, or, conversely, may encourage production of food crops for domestic consumption if imports are high. Cambodia between wars exempted mulberry trees from the land tax to encourage sericulture. Chile levies a tax on newly-planted vineyards to discourage domestic consumption of wine. Some Brazilian states have special exemptions or reductions

for land planted to such crops as fruit, wheat, and forage crops, for land to be reforested, and for land used for high grade livestock. Multiple exchange rates and import and export taxes can also be used to redirect agricultural production. Use of export or import taxes has long been practiced. State marketing boards for rice, cacao, and other commodities have been used to redirect resource allocation. Venezuela stimulates the growing of cacao and coffee by an exchange subsidy. Haiti and Brazil assess high rates of tax on low grades of coffee and lower rates on high grades as an incentive to improve the quality of coffee sold in the international market.

5. To improve conditions of land tenure. These taxes were also discussed under the remedial measures being used or suggested to overcome resource inefficiencies due to uncertainties engendered by the conditions of tenure. Measures which seek to discourage accumulation of large land holdings or break up those which exist may be either specific disincentive taxes or heavily progressive taxes. Specific discouragements are present in taxes on absentee landlords levied in Argentina, New Zealand, Formosa, and Australia. New Zealand enacted a steeply progressive land tax in 1936 with the specific objective of encouraging the breaking up of large estates into smaller farms. Steeply progressive death duties such as those in Great Britain may have similar effects. To encourage owner-cultivator forms of tenure, several countries

have special exemptions in the land tax schedule. Homestead exemptions in the United States and similar provisions in Brazil are one example. Some countries exempt new owners from taxes for a period of years. Others tax rents more heavily than owner incomes under income tax provisions. India and Belgium offer exemptions from registration fees and stamp duties to encourage voluntary consolidation.

6. To discourage land speculation. Tax measures designed to discourage speculation in land have been used in Denmark and Portugal. These levy heavy duties on the incremental value of land at the time of transfer, although Portugal exempts any increase in value coming as a result of labor or private capital investment. The International Bank mission to Colombia recommended a special capital gains tax to penalize short-term investments in comparison to longer-term investments. Capital gains from unimproved lands would be at a particularly high rate.

7. To alter the relationship between agricultural and other sectors. This would include not only taxation designed to effect a direct income transfer, but also to encourage movement of resources, especially labor, from one sector to another. Several African countries levy a cash head tax to encourage either more active cultivation or movement out of agriculture. A switch from market assessment to farm assessment of produce taxation may encourage increased marketings. Taxes on expenditure may encourage savings. It will be seen

that taxes of this sort offer formidable administrative difficulties.

Heller[350] notes that although tax devices which countries may enumerate or describe in a reply to a questionnaire may turn out to be "statutory declarations of intent rather than operative parts of the tax mechanism," even so there is substantial evidence to suggest that "developing agricultural countries in many parts of the world (especially in Latin America) take incentive taxation seriously in application to agriculture." Both the nations themselves and their technical assistance advisors have been "ingenious in devising incentive tax measures" and many have been enacted into law. Indeed, it would seem that taxes as an incentive device in agriculture have aroused "considerably" more interest in underdeveloped areas than in more advanced areas which tend to make more widespread use of fiscal devices such as subsidies to encourage socially desirable allocation of resources. Heller concludes that little is known about the effects of incentive measures such as those described above, and that many problems of administration reduce the effectiveness of incentive taxation in underdeveloped areas. He also draws attention to the fact that "coordinated economic policy calls for careful integration of incentive effects . . . with income effects." It will be necessary to resolve such conflicts in terms of over-all economic development ends-in-view. The effectiveness of incentive taxation to overcome resource inefficiencies in underdeveloped nations must also be evaluated in terms of the political and administrative

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350. Heller, "The Use of Agricultural Taxation for Incentive Purposes," p. 231 ff.

feasibility of the measures, the compliance mechanism and the possibility of adequate and equitable enforcement, and the social and organizational customs of the country. To levy many kinds of incentive taxes presupposes, for example, certain types of response to economic motivations, and often presupposes farm records to an extent far beyond the common practice of cultivators. (It may be suggested, however, that to the extent taxation encourages better record keeping it may have a beneficial influence on the whole of agricultural organization.)

Such devices as those suggested, it may be seen, can be used to make substantial progress in removing resource inefficiencies engendered by high fixed costs to the owner and toward more nearly fulfilling the necessary conditions for economic development by increasing efficiency through adjustments of economic and social institutions, through increased efficiency of capital, through increased efficiency of labor, and through allocating factor rewards more nearly in accord with their contributions.

Providing legal machinery

Remedial measures such as those cited to overcome the various sorts of resource inefficiencies discussed above very generally require certain kinds of governmental action and various measures which must be adequately enforced if the desired effect is to occur. It is obvious that unless equitable and efficient administration and police measures can be undertaken, the remedial measures may be useless or worse than useless. Likewise in a democracy it is essential to have some sort of judicial mechanism to settle disputes between individuals and between individuals and the government or governmental agency charged with carrying out the reform.

Legal machinery within the framework of the necessary conditions for

economic development. Means to enable judicial or quasi-judicial review of individual disputes are essential to further agrarian reform programs in democratic societies. Individuals who feel legal measures are being unjustly applied must be able to secure a review of their case in a manner both fair and within their reach. The agency carrying out the reform must also have means of forcing recalcitrants to comply with agrarian reform measures. Unless such legal institutions are available, the individual cultivator may not be in a position to secure redress or the program may bog down, and resource inefficiencies are likely to occur, not to mention the outright injustices which would not be in accord with other precepts of a democratic society.

Suitable judicial provision represents an important example of an adjustment in a social institution to promote increased efficiency, and to help fulfill the necessary conditions for economic development. It may also act directly as a means to assure individuals they will be able to secure future returns from present action, thus giving effect to the economic incentives set up by various agrarian reform measures. To the extent judicial provisions do enable the individual to secure a reward in accordance with his contribution, they are helping fulfill the necessary conditions.

Remedial alternative: special judicial provisions in agrarian reform programs in underdeveloped nations. Several underdeveloped countries have developed special quasi-judicial courts, or boards, to enable individuals to secure redress from alleged injustices arising from the administration of an agrarian reform. In most of these nations the tenant or small cultivator is ill-equipped to take his case into the regular court system

where litigation might be prohibitively expensive and considerable travel be involved. The United Nations Department of Economic Affairs[351] notes that in five Far Eastern countries where substantial new measures of agrarian reform have been introduced in recent years enforcement has been entrusted to special administrative machinery, separate from the courts. "It would appear," the Department notes, "that the creation of a special administration or local organization for this purpose is in several countries regarded as a condition of successful enforcement."

In India, where the machinery of revenue collection is used to set and to enforce rent control, there is a right of appeal against the decision of the local revenue officer to a higher officer. Rent disputes do not lie within the jurisdiction of the regular courts. When elected village councils are organized, it is intended to turn over enforcement and adjustment to them.[352] Binns[353] mentions that in India and Burma special Land Revenue Courts provide an "expeditious" method of recovering many kinds of government obligations owed by the cultivator or landowner, and in Burma the courts are adapted to the recovery of debts. These courts, he suggests:

> . . . have the advantage of much closer contact with the people than the civil courts, a much less litigious atmosphere, quick action, and ready and speedy disposal of appeals--and have in the past had an enviable reputation for humanity and fair dealing. Where such institutions exist it may be possible to give credit institutions under governmental or other public control or

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351. United Nations Department of Economic Affairs, Progress in Land Reform, p. 148.

352. Ibid., p. 143.

353. Binns, Agricultural Credit for Small Farmers, p. 22.

> sponsorship, access to these courts. Where no comparable institution exists, it may be desirable to devise, with due safeguards, some simple and cheaper method of recovery than that provided by the ordinary procedure of the courts.

Special means of filing appeals from the decision of administrative officers in consolidation procedures also have been worked out.[354] Binns[355] recommends that such special provision be an integral part of every consolidation scheme. Appeal normally should be to an appellate tribunal of "local origin," he recommends, and "the intervention of the ordinary civil courts should be avoided whenever possible" except when appeals involve the allegation that the consolidation authority is exceeding its authority. Such special tribunals have been established with authority over consolidation proceedings in France[356] and Switzerland.[357]

In Pakistan, enforcement of rent control legislation is under the jurisdiction of revenue authorities and revenue courts supervise and control the revenue officers. In Sind, special tribunals consisting of one revenue officer have been appointed for the settlement of disputes between tenants and landlords.[358]

On Formosa, after the institution of the rent control legislation in

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354. United Nations Department of Economic Affairs, Progress in Land Reform, p. 196.

355. Binns, The Consolidation of Fragmented Agricultural Holdings, p. 30.

356. Government of the French Republic, "Consolidation of Agricultural Holdings in France," in Bernard O. Binns, The Consolidation of Fragmented Agricultural Holdings (Washington: Food and Agriculture Organization of the United Nations, 1950), pp. 55-63.

357. Federal Government of Switzerland, op. cit., p. 88.

358. United Nations Department of Economic Affairs, Progress in Land Reform, p. 144.

1949 a serious enforcement problem arose. A sharp rise in the number of rent terminations was noted in May, 1950, in the south. Superficially this was the act of the tenant; actually it was the result of landlord pressure. After the termination, the landlord held the land under pretext of self-cultivation but rented it to other tenants at higher than the 37.5 per cent maximum or cultivated it by hired labor. In March, 1951, a new supervision project got underway. The Joint Commission on Rural Reconstruction and the Provincial Land Bureau assigned 90 full-time regional and provincial supervisors to work in the field investigating and settling rent disputes. A framework for procedure was established, and inspectors authorized to issue arrest orders through local governmental officials to landlords who defied the decisions or mediation orders of the inspectors. Between March and June, 1951, these special inspectors settled 15,944 cases with 405 more pending.[359] (There were some 385,000 tenant and part-owner cultivators on Formosa in 1948 meaning some 4.2 per cent of all tenants were involved in disputes handled by the special arbitration machinery.)[360]

In Bolivia, to settle disputes arising out of the agrarian reform program, the government has established agrarian judges under the National Agrarian Reforms Service whose task is to hear suits concerning land claims.[361]

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359. Joint Commission on Rural Reconstruction, General Report II (Taipei: Joint Commission on Rural Reconstruction, 1952), pp. 96 ff.

360. Provincial Government of Taiwan, op. cit., p. 14.

361. United Nations, Department of Economic Affairs, Progress in Land Reform, p. 85.

It would seem that special quasi-judicial procedures such as these adopted in various underdeveloped areas offer an important means to reduce resource inefficiencies in implementing agrarian reform programs.

Dissemination of information

For all the adjustments suggested earlier to succeed in promoting economic development, greater amounts and more widespread dissemination of information will be needed. Successful adjustments to promote agrarian and economic development are hindered by both a lack of information anywhere in the society which can be overcome only by research and by a lag between the acquisition of information and its application by individual cultivators on their own holdings, which calls for various educational measures.

Information in the framework of the necessary conditions for economic development. One of the necessary conditions for economic development is more widespread dissemination of information. The availability and application of knowledge is of critical importance in economic development. A lack of adequate information is apparent from the very beginning of a consideration of economic development theory right through to the final application of innovations by individual cultivators in underdeveloped areas. Without information about physical possibilities and institutional forms it is impossible for the individual cultivator to reach the optimum efficiency for his labor. Without information available in the society, progress could not be made in improving the use of capital and adjusting economic and social institutions to secure increased efficiency. Without knowledge it is impossible for factor suppliers to be assured of a return in accordance with their contribution. In short, progress toward fulfilling every one of the necessary conditions for economic development

requires greater amounts of information.

The discovery and application of information is a never-ending process. In that sense, the necessary conditions for economic development could never be wholly fulfilled except in a static world. Thus even the most advanced nations are underdeveloped to the extent there is new knowledge to be discovered and available knowledge to be applied. Indeed, some of the most vigorous efforts at research and application are found in the nations with the most highly developed agriculture. The elaborate system of land-grant colleges and of extension services in the United States speaks of the importance of research and education to agriculture in a relatively well-developed economy.

Present situation in underdeveloped countries with regard to information. In many underdeveloped areas of the world there is a real lack of information about the physical and institutional limits and possibilities. Kellogg[362] suggests that to increase physical production in underdeveloped areas with tropical or subtropical climates will take a great deal of new knowledge to be gained through research. He points to the substantial agricultural development in temperate climates within the last 100 years based upon information developed by "numerous great universities and research institutes. Few such first-class institutions exist in the tropics." In Japan, Ackerman[363] suggests "the economic future . . . in large

362. Charles E. Kellogg, Food, Soil, and People (New York: Manhattan Publishing Company in co-operation with the United Nations Educational, Scientific, and Cultural Organization, no date), p. 26.

363. Edward A. Ackerman, Japan's Natural Resources and Their Relation to Japan's Economic Future (Chicago: The University of Chicago Press, 1953), p. 537.

measure rests with . . . research scientists, engineers, technologists, and technicians." From the standpoint of knowledge about institutions, the government of India, for example, considers the "lack of data concerning the various aspects of the agrarian structure" as an important obstacle to agrarian reform programs.[364] In discussing the effects of taxation on tenure reforms in underdeveloped areas, Raup[365] recognizes a severe lack of information and makes a number of recommendations for research. A more detailed discussion of research needs is beyond the scope of the present discussion; but these examples suffice to indicate the widespread need for further research and the experience of the more advanced nations in the West indicate such research could be very effective in promoting economic development.

Although there is a lack of information about physical and institutional possibilities, such information as is available is imperfectly disseminated in many underdeveloped areas. The experts appointed by the United Nations to investigate measures for the economic development of underdeveloped nations noted that "in certain fields of production, some of these countries have made no improvements in technology for centuries."[366] They note, however, that the "mere existence of a wide gap in technology itself presents the under-developed countries with a wide scope for advance in this field."

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364. United Nations Department of Economic Affairs, Progress in Land Reform, p. 59.

365. Raup, op. cit., p. 266 ff.

366. United Nations Department of Economic Affairs, Measures for the Economic Development of Under-Developed Countries (New York: United Nations Department of Economic Affairs, 1951 [United Nations Publications Sales Number 1951.II.B.2]), p. 28.

Even in areas where government officials are aware of the need for agrarian reforms and are attempting to implement a vigorous program, the problem of dissemination of information is an important obstacle. Crane[367] cites an unpublished report on Burmese farming problems indicating a lack of information:

> The lack of an effective information and extension program was strongly evident everywhere we went. Even in a village six miles from Mandalay the farmers know nothing about land nationalization and had heard only vague statements about the various tenancy control laws which are now in effect.

This situation results not from a lack of skill or effort on the part of extension officials, but from the "inadequacy of their present staff and budgets in relation to the requirements of a really effective extension system." In this area a senior agricultural officer must handle some 700 villages. Under existing conditions of funds and transport, he can cover only some 90 villages a year, and more than 7 years would be required for him to visit all the villages for which he is responsible.

In Thailand, Jacoby[368] suggests progress toward greater agricultural productivity "is hampered by the low level of education and the immense difficulties which agricultural training consequently encounters in a largely illiterate country."

In the Middle East, Schweng[369] reports education is handicapped by the attitude of officials and the distrust of the common people for

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367. Crane, op. cit., p. 49 f.

368. Jacoby, Agrarian Unrest in Southeast Asia, p. 236.

369. Schweng, op. cit., p. 590 ff.

government agents. He concludes "educated local men must face spending their lives in villages to teach their simple fellow citizens by example."

A general picture emerges of widespread lack of education and a need for education as a part of a reform program. Throughout the underdeveloped world, as Jacoby[370] asserts is true for southeast Asia, "the average cultivator . . . has not reached an intellectual and economic level which would enable him to obtain a maximum yield at the lowest cost." It must be recognized that agricultural education "cannot have lasting success when applied in a social vacuum." Jacoby asserts "we must emphasize the mutual causality of all the factors" in agricultural development. To have lasting effect, education must be a part of a continuing program so that individual cultivators may come to see the advantages of superior cultivation techniques and be convinced they will realize the benefits if they apply them.

The low level of education is, of course, widely recognized in underdeveloped nations and nearly all are making efforts to overcome it. They are, however, handicapped by a severe lack of funds and adequately trained personnel. Several governments included statements about general educational efforts in their replies to the United Nations questionnaire, although such information was not specifically requested. On Formosa the government reports increased elementary school attendance. The Dominican Republic has undertaken a "literacy campaign" with special schools for adults and special clubs and courses for farmers. Haiti has undertaken a program of basic education in the Marbial valley. Pakistan reported a

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370. Jacoby, Agrarian Unrest in Southeast Asia, p. 25 f.

program of reorganization in its extension services to make them more effective.[371]

Remedial alternatives

Research programs. The obvious means to increase the amount of basic knowledge about physical and institutional limits is, of course, to institute research programs and to facilitate the exchange of information about resource inefficiencies in agriculture engendered by defects in agrarian structures. A detailed discussion of various means to accomplish this is beyond the scope of the present discussion, although it may be noted efforts to encourage such programs are being undertaken by the Food and Agriculture Organization of the United Nations. Its program has been expanded to include "general studies, functional monographs, field studies of particular situations, regional seminars and demonstration projects."[372]

Formal education. Several underdeveloped nations, as mentioned above, have instituted formal education programs in an attempt to raise the general educational level in the rural sector of the society. Special schools for agricultural education may, however, tend to defeat some of their own purpose. Schweng[373] notes that in the Middle East a fair proportion of agricultural education budgets "goes into expensive buildings and installations, beautiful to look at yet far removed from the realities

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371. United Nations Department of Economic Affairs, Progress in Land Reform, p. 271 f.

372. Food and Agriculture Organization of the United Nations, New Program of Work on Land Tenure and Related Subjects (Rome: Food and Agriculture Organization of the United Nations, 1952), 5 pp.

373. Schweng, op. cit., p. 592.

of life around them." As a result, "progress becomes slower than it need be." He continues:

> The harm does not end in having wasted funds that could have been spent on modest but vital projects. If the schools and other establishments are in glaring contrast to the ordinary village and the peasant farm, the trainees, future farmers and officials, will be conditioned away from the village, will be induced to stay in towns and will thus become unable to raise the level of rural life and of agriculture.

It would seem the most effective program of formal education for cultivators in relation to agriculture in most underdeveloped countries might be to make efforts to increase the amount of agricultural information taught in primary and secondary schools in rural communities. This might be accomplished by providing teachers with more adequate information about agricultural techniques on which to base their instruction, or by encouraging some college-trained teachers to specialize in agriculture and teach in secondary schools. These well-trained teachers might be able to work in more than one school until more trained teachers become available. Such a program, of course, presupposes an existing school system which may not exist. It can be pointed out, however, that special formal schools probably will be effective only if there is a general educational system.

More advanced specialized vocational schools for farm youth have been established in such nations as Sweden, Denmark, the Netherlands, and Switzerland. These usually require two winters in attendance for completion and might provide a pattern for underdeveloped nations. Care must be taken, however, to assure these schools are not too elaborate and fail to encourage farm youth to return to their homes.[374] On the collegiate level,

374. A. B. Lewis, Ralph W. Phillips, and J. Lossing Buck, Essential Steps in National Agricultural Improvement (Washington: Food and Agriculture Organization of the United Nations, 1950), p. 7 f.

underdeveloped nations might establish colleges of agriculture on the order of United States land grant colleges and similar institutions in other Western nations. It should be noted several underdeveloped nations have made significant starts in this field.

Dissemination through existing agricultural institutions. Where there are existing farmer organizations, perhaps co-operatives established for marketing or credit purposes, a channel exists within which information may be disseminated. The confidence cultivators have already built up increases the likelihood that the information will be accepted and applied. The International Labour Office[375] suggested:

> The rural co-operative societies may be said to constitute the most convenient distributing system for conveying quickly to the agricultural population expert counsel and advice. For that advice is thus conveyed, not to isolated individuals, but to a permanent coherent group, whose activity continues and confirms that of the transient individual expert. They cease to be the bloodless precepts of academic theory and become the living, practical standards of education by experience. They cease, for the farmer, to be instructions, mistrusted because official, and perhaps also obscure; they become methods of action, used and recommended by his fellows, his friends, those to whom he has given his personal confidence and entrusted the direction of his community.

In India and Pakistan the formation of local "better farming societies" has been undertaken explicitly to provide channels of information to reach local cultivators. The United Nations Department of Economic Affairs,[376] commenting on the lack of adequate technical support and comprehensive guidance, relates success has "been somewhat limited."

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375. International Labour Office, Co-operative Action in Rural Life (Geneva: League of Nations, 1939), p. 30.

376. United Nations Department of Economic Affairs, Rural Progress Through Co-operatives, p. 35.

One of the most important channels for disseminating technical information to cultivators may be through credit institutions. In India and Pakistan, credit co-operatives have prepared the way for experts in agriculture, veterinary medicine, public health, and education.[377]

As mentioned earlier, an educational function may be combined with government organizations to provide supervised agricultural credit. Such arrangements are being used in Mexico, Honduras, Costa Rica, Venezuela, Brazil, Peru, Bolivia, Paraguay, and Uruguay with varying degrees of success.[378]

Other existing institutions may be used, too. The example of the panchayats or ancient village assemblies which were revived to provide a center "to introduce modern programs in improved agriculture and education" has been mentioned.[379] Rogers[380] tells of a Moslem priest in southeast Asia who allowed the farm advisor in his area to reach farmers by permitting him, after the religious services, to tell the farmers in the mosque about scientific agriculture.

Extension service. One important means of disseminating information is through some organization analogous to the agricultural extension services in the United States or the National Agricultural Advisory

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377. Ibid.

378. Blaisdell, et. al., op. cit., p. 64 ff.

379. Morris E. Opler, "The Problem of Selective Culture Change," in Bert F. Hozelitz, The Progress of Underdeveloped Areas (Chicago: The University of Chicago Press, 1952), pp. 126-134.

380. Charles E. Rogers, "Agricultural Information, Please!," Foreign Agriculture, Vol. 16, No. 4 (April, 1952), pp. 77-79.

Service in Great Britain. Most underdeveloped nations do have some form of technical advisory service, although most of them are severely handicapped by a lack of funds and a lack of trained personnel.

Brunner and Yang[381] outline four principles of extension "based on American experience which [appear] to have value outside the United States:"

1. "The greatest degree of latitude" should be provided for with respect to program and methods in order that both may, as closely as possible, fit local conditions, that is the local resources in soil, finances, and human beings and the local traditions, culture, and total needs.
2. It is of "paramount importance" that the extension employee understand and work "in harmony with the culture." Extension, by its very nature, attempts to teach a more excellent way. "It is inevitably an assault upon accepted procedures sanctioned by the habits of years." The new ways must, "if at all possible, be rationalized, not necessarily in terms of the procedures of the old but certainly in terms of its values."
3. The "community must be regarded as the basic unit of work." The extension employee, of course, works within the existing institutions, although a special educational agent in the community. In this respect, the extension worker will overlap with the educational activities conducted by and through the existing institutions cited earlier.

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381. Edmund deS. Brunner and E. Hsin Pao Yang, Rural America and the Extension Service (New York: Teachers College, Columbia University, 1949), pp. 176 ff.

4. The "home must also be regarded as basic." The authors cite the effort to persuade a Moslem community to install a pump as a means of securing a pure water supply. Little success was achieved until a woman worker visited homes to explain how the new water supply would lighten toil for women and mean fewer illnesses and deaths among their children.

Using these precepts, the authors suggest extension workers "start with the people where they are" and plan a gradual program of technological advance within the community. They suggest starting with simpler wants and progressing to more complicated programs. "The simpler the society, the broader the Extension program need be," they warn. The extension service, they feel, should "serve all classes, conditions, and races of men." Local leaders should be used "as responsible representatives of the Service." "Finally," they warn:

> The simpler or more primitive the society, the greater the principle of demonstration. . . . This means that the Extension worker must be willing to conduct such demonstrations. He must be willing, if need be, to have the dust of the land on his shoes and the good earth of the farm on his hands. The successful Extension worker is not a desk-bound civil servant.

Most authorities agree that however the extension is established, it is preferable it not have a regulatory function.[382]

Even in underdeveloped areas where the rate of literacy is low, there may be a place for pamphlets and other printed educational media to be integrated into an extension program. Rogers[383] reasons:

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382. Lewis, Phillips, and Buck, op. cit., p. 9.

383. Rogers, op. cit., p. 79.

> Even where the written word is not capable of reaching the bulk of the population, written materials will be the backbone of any information campaign. Moreover, levels of literacy are improving all over the world, and a change can be expected in many countries even in the present generation.

He suggests[384] the use of printed leaflets with a large proportion of pictorial matter in areas where literacy is low, since:

> When an illiterate farmer gets printed matter in the mail, especially if it is from the government, he gets somebody to read it to him as soon as possible--the village teacher, priest, or government official. In nearly every village someone can read. Sometimes a schoolboy brings home an agricultural leaflet; his parents are curious and ask him to read it to them.

Members of the workshop on information methods at the Conference on World Land Tenure Problems also recommended such information techniques as slides, film strips, and motion pictures; radio; and posters as being information media which have proved effective in underdeveloped nations.[385]

Reducing occupational immobility

A thorny obstacle to agrarian development which has been frequently mentioned in this study is the lack of alternative opportunities for agricultural workers. In most underdeveloped countries the agricultural population is frozen to its present situation without much hope of being able to shift out of agriculture, a move that might increase the marginal value product of both the labor which moves and the labor which remains in agriculture. Throughout the underdeveloped areas, agricultural labor is faced with the extremely difficult problem of occupational immobility.

The problem of occupational immobility is reflected in two forms within

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384. Ibid., p. 77.

385. Influencing Rural People (Madison: University of Wisconsin, 1952), 54 pp.

agriculture in underdeveloped areas: underemployment of tenant and owner-occupier cultivators and unemployment of landless labor.[386] The means of overcoming both are similar and are thus treated together in this study.

Occupational immobility within the framework of the necessary conditions for economic development. The economic consequences of an excessive population in agriculture are well-known. When too many people must depend upon agriculture for their livings, the marginal efficiency of all is driven down. The minimum level of subsistence becomes the lower limit for the marginal product. It is impossible to raise the subsistence norm in the society. Labor efficiency is very low. The effects of occupational immobility affect the application of new technology, since demand-increasing techniques such as health and sanitation measures may cause a tremendous increase in population without a suitable productive outlet for their abilities. The heavy pressure of population on land prevents the accumulation of capital with which to increase the efficiency of labor. Unless some means can be made available to provide occupational mobility, the hopes for economic development in many areas are dim indeed.

Present situation with respect to occupational immobility in underdeveloped countries. Virtually every author dealing with the problem of agrarian development in underdeveloped areas agrees that occupational immobility--however termed--is a widespread, critical problem. Li[387] says one-third of the agricultural labor could be taken from the land in South

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386. United Nations Department of Economic Affairs, Measures for the Economic Development of Under-Developed Countries, p. 7.

387. Choh-Ming Li, "Economic Problems of the Peasant in the Far East," World Affairs Interpreter, Vol. 22, No. 4 (January, 1952), pp. 431-439.

Asia; Drucker[388] says food production would be doubled if half the labor were moved. Accurate figures are impossible to obtain, but the magnitude of the problem is indicated by the relatively low proportion of people in agriculture in nations with the highest per capita income and relatively important agricultural industries--13 per cent for the United States, 19 per cent in Canada, 21 per cent in New Zealand, 27 per cent in Denmark, compared with levels of over 70 per cent in much of Asia.[389] For the world as a whole, Bhattacharjee[390] estimates the marginal productivity of the population active in agriculture (i.e., the increase in net agricultural output resulting from each added individual in the agricultural labor force) is on the order of from 112 to 122 United States dollars per year. Furthermore, he suggests, "the marginal productivities of labor . . . in the underdeveloped countries are likely to be much lower than in the world at large." (The weight of this opinion would seem to challenge the accuracy of an opposing viewpoint, exemplified by the statements of Clark[391] who suggests that more, not less, labor is needed in world agriculture.)

One indication of the excessive amounts of labor in agriculture is indicated by the proportion of landless agricultural labor even in nations

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388. Peter F. Drucker, "Frontier for This Century," Harper's Magazine, Vol. 204, No. 1222 (March, 1952), pp. 68-74.

389. Food and Agriculture Organization of the United Nations, Yearbook of Food and Agricultural Statistics, 1953 (Rome: Food and Agriculture Organization of the United Nations, 1954), p. 16 f.

390. Bhattacharjee, op. cit., p. 67.

391. Colin Clark, "World Resources and World Population," in United Nations Scientific Conference on the Conservation and Utilization of Resources, Proceedings, Vol. 1 (Lake Success: United Nations, 1950 [United Nations Publications Sales Number 1950.II.B.2]), pp. 15-27.

where the average size of holding is not large. Li[392] estimates the proportion as high as 30 per cent of the total rural population in Indonesia, 55 per cent in India, 50 per cent in south China, and 75 per cent in southern Viet Nam. Specific information, both as to the extent of landless labor and the conditions of its employment, are often not known in underdeveloped areas.[393]

The low wages and poor living conditions of plantation labor in many underdeveloped areas are also indicative of occupational immobility.[394] (An explicit treatment of the problems of plantation labor is beyond the scope of the present study.)

Remedial alternatives

Resettlement. One means of overcoming occupational immobility might be to move agricultural labor out of areas where there is heavy population pressure on land to new land. This would have the effect of increasing the marginal value product both of the labor moved and of the new farmers. In India, the 5-year plan calls for "land reclamation and development" covering some 7.4 million acres.[395] This would seem to be optimistic, particularly in such a short period of time. It does, however, give an indication of the extent Indian authorities feel reclamation

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392. Li, op. cit., p. 436.

393. United Nations Department of Economic Affairs, Progress in Land Reform, p. 155.

394. See, for example, International Labour Organisation Committee on Work on Plantations, Basic Problems of Plantation Labour (Geneva: International Labour Office, 1950), 166 pp.

395. Government of India Planning Commission, op. cit., p. 211.

and development is feasible. In the Philippines the Economic Survey Mission to the Philippines estimated some 4 million new acres of land would be suited to new settlement, and some progress is being made toward establishing new farmers.[396] Youth[397] estimates there are some 19.3 million acres of land "still to be put under cultivation" in Cambodia. Jacoby[398] relates only 10 per cent of the total land area in Thailand is cultivated or utilized. In South America, large tracts of land could be economically settled and cultivated more intensively. In Chile a private company with Chilean and Italian capital has been formed to improve land and settle Italian immigrants.[399] An Agricultural Settlement Fund has been established but its purposes "have not been realized" mainly because of a lack of financial resources.[400] Similar experiences are reported from other South American nations. The possibilities for land settlement, however great in theory, do not seem to be rapidly realized. The United Nations Department of Economic Affairs[401] cautiously comments:

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396. Jose Velmonte, "Farm Ownership and Tenancy in the Philippines," in Conference on World Land Tenure Problems, Proceedings, Part 1 (Madison, Wisconsin, October 8 to November 20, 1951), unpaged.

397. Youth, op. cit. (unpaged).

398. Jacoby, op. cit., p. 228.

399. Jose Astorga, "Land Tenure Problems in Chile," in Conference on World Land Tenure Problems, Proceedings, Part 1 (Madison, Wisconsin, Wisconsin, October 8 to November 20, 1951), unpaged.

400. United Nations Department of Economic Affairs, Progress in Land Reform, p. 111.

401. Ibid., p. 114.

> Fuller information might serve to correct the impression that the policy of development of land resources is not in general being energetically pursued. As it is, the replies suggest that the . . . bringing of new land into cultivation is not a field in which much progress has been made.

Cottage industries. One means to provide occupational mobility without economic development of the sort characterized by heavy industry and avoiding to some extent the mushrooming of industrial slums in underdeveloped areas is the development of cottage industries. The idea, of course, is not new. Li[402] estimates that in the Far East as much as 30 per cent of the peasant's living expenses in the past has been derived from cottage industries of various sorts, principally the weaving of silk and cotton cloth. "In recent decades," he continues, "the penetration of foreign imports and the growth of textile industries in the countries themselves have rapidly eliminated this strategic source of the peasant's income."

Many underdeveloped nations are encouraging cottage industries or other small industries located in rural areas as a means of providing occupational mobility. In Cambodia, a special governmental credit agency has been established to make loans to rural industries. In Nepal a government department is charged with promoting the development of rural and cottage industries. In Cuba a tax exemption law has recently been passed to encourage rural industries. In Puerto Rico cottage industries are encouraged by the Community Industries Division of the Department of Agriculture and Commerce with emphasis on training programs for future cottage industry administrative personnel. In Japan, where rural industries are

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402. Li, op. cit., p. 437.

perhaps more highly organized than in any other underdeveloped nation, the government encourages "small-scale rural industries" and "family industries" by making funds and working materials available. The 5-year plan in India aims at encouraging cottage industries, particularly through the formation of industrial co-operatives within which cottage industries would participate.[403] On Java between the wars cottage industries represented about 10 per cent of the farm income and the growing of raw materials for the industries added another 7 per cent.[404] The widespread interest in cottage industries is indicated by the number of requests being received by the United Nations and its specialized agencies for technical assistance in the fields of handicrafts and cottage industries.[405]

Cottage industries, while an important transitional device between a principally agrarian and a balanced modern industrial-agricultural economy of the type found in the United States and western Europe and an important means to provide off-season employment for underemployed agricultural labor, are not a complete answer to the problem of underemployment and occupational immobility in agriculture. The United Nations Department of Economic Affairs[406] cautions, "it must be emphasized that cottage industries of the traditional type, using primitive equipment, are by reason of

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403. United Nations Department of Economic Affairs, Progress in Land Reform, p. 164 ff.

404. Peter H. W. Sitsen, Industrial Development of the Netherlands Indies (Richmond: American Institute of Pacific Relations, 1943), p. 15.

405. United Nations Department of Economic Affairs, Progress in Land Reform, p. 170.

406. United Nations Department of Economic Affairs, Land Reform, Defects in Agrarian Structure as Obstacles to Economic Development, p. 86.

their low productivity no answer to the problems of surplus rural population." The Department continues to point out that output per worker in Indian cottage industries is estimated to be "about a fourth of that of factory workers."

Nonagrarian alternative opportunities. Ultimately, the only solution to occupational immobility is to provide alternative opportunities for agricultural workers outside agriculture. This has been the pattern followed in the relatively well-developed nations of the West where levels of living in both agriculture and industry are high. This, of course, involves over-all economic development and, as pointed out earlier, is one of the most important reasons for evaluating agrarian reforms in terms of their effects on over-all economic development. The government of India would seem to express a common opinion in underdeveloped areas:[407]

> "It has been recognized that the problems of sustained employment of agricultural workers and small cultivators who are largely under-employed, has to be approached in terms of institutional changes. . . ." This would involve the use of resources in such a way "as to increase and diversify production and provide fuller employment to all the people working on the land. It is also recognized that the solution of the problem would lie to a large extent in the growth of industries and of tertiary services."

Drucker[408] has been cited as asserting "effective land reform in almost any peasant country means making holdings larger and fewer. . . . The real need . . . is . . . to get rid of the submarginal peasant--to get him off the land." Therefore, "industrialization is the only answer" to agrarian as well as over-all economic development.

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407. United Nations Department of Economic Affairs, Progress in Land Reform, p. 171.

408. Drucker, op. cit., p. 69.

This, of course, is not new. It has long been realized in underdeveloped nations, by the foreign policies of the Western nations, and by professional workers in academic disciplines. There is evidence, however, as has been mentioned, that a full integration of agrarian reform and over-all economic development has not been everywhere achieved. Faced with the realization of the necessity to increase efficiency of labor and to raise the marginal value produce of agricultural workers, future efforts in underdeveloped nations must be directed toward improving the institutional structure within agriculture to assure fair return for effort expended and to increase productivity through technological advance, and at the same time pursue a program of over-all economic development which will have as one of its important effects the creation of nonagrarian opportunities for the agricultural population.

AGRARIAN REFORM IN JAPAN

The occupation of Japan following World War II resulted in the most extensive agrarian reform of recent years. When United States military forces entered Japan in the summer of 1946 they carried with them the results of an intensive study of Japanese agriculture conducted by various government agencies and civil affairs officers attached to the staff of General Douglas MacArthur. They were, therefore, familiar with agrarian conditions in Japan, and had formulated tentative plans for agricultural programs which could be instituted upon the entry of the occupation force into the country.[1]

Chief among the concerns of these specialists was the high proportion of tenants. Until these tenants were independent owners, they reasoned, there could be little basis for permanent democratic growth in rural Japan. Furthermore, it was recognized that the feudal structure of Japanese agriculture had been one of the means by which the militarists who governed Japan during the war had gained power.[2]

On April 26, 1946, the population of Japan was reported as 73,114,308, of which 47.2 per cent was classed as farm population. At that time, 67.1 per cent of the farming population was tenants in one form or another,

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1. Mark B. Williamson, "Land Reform in Japan," Journal of Farm Economics, Vol. 33, No. 2 (May, 1951), pp. 169-176.

2. Laurence I. Hewes, Jr., "On the Current Readjustment of Land Tenure in Japan," Land Economics, Vol. 35, No. 3 (August, 1949), pp. 246-259.

although the relationships were complicated by the fact that many tenants owned part of the holdings they cultivated, and some even rented out land which it was not convenient for them to cultivate themselves.[3] At the same time rents ranged from 50 to 70 per cent of the annual crop.[4] Table 12 gives some indication of the extent of tenancy in Japan.

Table 12. Status of Japanese farm households

Status	April 26, 1946 (percentage)[a]	August 1, 1947 (percentage)[a]	December 31, 1948 (percentage)[b]
Owner-operator[c]	31.9	36.5	70.0
Part tenant:			
Chiefly owner-operator[d]	19.8	20.0	22.5
Chiefly tenant[e]	18.6	16.9	2.0
Full tenant[f]	28.7	26.1	5.5

[a]Adapted from Grad, op. cit., p. 116.

[b]Adapted from Hewes, op. cit., p. 257.

[c]Includes farmers who lease out land and tenants who lease less than 10 per cent of the area cultivated by them.

[d]Tenants whose own land constitutes 50 to 90 per cent of the area cultivated by them.

[e]Tenants whose own land constitutes 10 to 50 per cent of the area cultivated by them.

[f]Tenants whose own land constitutes less than 10 per cent of the area cultivated by them.

3. Andrew J. Grad, "Land Reform in Japan," Pacific Affairs, Vol. 21, No. 2 (June, 1948), pp. 115-135.

4. Williamson, op. cit., p. 169.

Crowded conditions and small scale of cultivation aggravated these problems of tenancy. Within an area of only 142,270 square miles there are nearly 5.9 million farm households. Americans will appreciate these problems better when they realize that in an area slightly smaller than California live as many farm families as in the whole of the United States, and that of the total area of Japan only 16 per cent is arable.[5] An indication of the small scale of Japanese farming operations is given in Table 13.

Table 13. Scale of cultivation in Japan

Scale (acres)	Estimated percentage of households 1941-1945[a]	1946[a]	1947[a]	1950[b]
0-1.25	33.6	39.2	41.4	40.8
1.25-2.45	30.0	31.4	31.0	32.7
2.45-4.90	26.8	23.5	21.8	22.1
4.90-7.35	6.1	3.7	3.5	3.4
7.35-12.25	2.2	1.4	1.3	1.2
Over 12.25	1.3	0.9	1.0	0.8

[a]Adapted from Hewes, op. cit., p. 257.

[b]Adapted from Andrew J. Grad, Land and Peasant in Japan (New York: Institute of Pacific Relations, 1952), p. 59.

These difficult conditions had resulted, as might be expected, in agitation for reforms as early as World War I. Very little action was taken until military leaders recognized the importance of pacifying the rural populace, and accordingly a group of reform and rent control measures was passed in the period between 1938 and 1944. These provided for a

5. Arthur F. Raper, "Some Recent Changes in Japanese Village Life," Rural Sociology, Vol. 16, No. 1 (March, 1951), pp. 3-16.

brake on the eviction of tenants, the freezing of land prices and discouragement of all sales except to tenants, and the substitution of cash rents for payment in kind. While not strictly enforced, this legislation did provide a basis for the postwar reform measures and the price and rent controls instituted during the war took much of the pressure off land as a form of investment.[6]

Efforts to formulate a reform began soon after the occupation was instituted. However, conservative members of the Japanese Diet attempted to thwart the framing of a really effective reform in October and November, 1945. Accordingly, the General Headquarters, Supreme Commander for the Allied Powers issued an explicit memorandum to the government directing it to submit an acceptable, thorough-going agrarian reform by March 15, 1946. The SCAP memorandum was broad both in objectives and means:[7]

> 1. In order that the Imperial Japanese Government shall remove economic obstacles to the revival and strengthening of democratic tendencies, establish respect for the dignity of man, and destroy the economic bondage which has enslaved the Japanese farmer to centuries of feudal oppression, the Japanese Imperial Government is directed to take measures to insure that those who till the soil of Japan shall have a more equal opportunity to enjoy the fruits of their labor. . . .
>
> 3. The Japanese Imperial Government is therefore ordered to submit . . . a program of rural land reform [containing] plans for:
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> a. Transfer of land ownership from absentee land owners to land operators.
> b. Provisions for purchase of farm lands from non-operating owners at equitable rates.
> c. Provision for tenant purchase of land at annual installments commensurate with tenant income.

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6. Hewes, op. cit., p. 248 ff.

7. Laurence I. Hewes, Jr., Japanese Land Reform Program (Tokyo: Supreme Commander for the Allied Powers, 1950), p. 96 f.

d. Provisions for reasonable protection of former tenants against reversion to tenancy status. Such necessary safeguards should include:
   (1) Access to long and short term farm credit at reasonable interest rates.
   (2) Measures to protect the farmer against exploitation by processors and distributors.
   (3) Meausres to stabilize prices of agricultural produce.
   (4) Plans for the diffusion of technical and other information of assistance to the agrarian population.
   (5) A program to foster and encourage an agricultural co-operative movement free of domination by non-agrarian interests and dedicated to the economic and cultural advancement of the Japanese farmers.

e. The Japanese Imperial Government is requested to submit in addition to the above, such other proposals it deems necessary to guarantee to agriculture a share of the national income commensurate with its contribution.

After repeated negotiations between SCAP agricultural officials and members of the government, an acceptable bill was introduced and became law on October 21, 1946.

The principal provisions of the law related to a transfer of ownership rights to cultivators. The law authorized the government to undertake compulsory purchase of all land cultivated by tenants with certain limited exceptions. The classes of land affected included:

1. All tenanted land the owners of which did not reside in the city, town, or village where the land was situated.
2. All tenanted land in excess of 2.45 acres (1 cho) on the main islands or 9.80 acres (4 cho) on Hokkaido where a more extensive agriculture is practiced where such tenant-farmer land was owned by residents of the city, town, or village where it is situated. This left some 13 per cent of the total land area in the hands of resident landlords.

3. All land owned by cultivators in excess of 7.35 acres (3 cho) or 29.4 acres (12 cho) on Hokkaido unless the cultivator could demonstrate he had sufficient family labor to cultivate efficiently or unless subdivision of the larger area would have resulted in decreased production. In addition the government was authorized to purchase land owned by juridical persons not needed for their principal purpose, agricultural land not in use or used ineffectively, and nonagricultural land adjacent to agricultural land whose use was essential to operations on the agricultural land. In addition, the purchase authority extended to water rights, trees, building, and equipment.[8]

The land was selected for purchase by the local land commission elected for that purpose. If approved on the prefectural level, the state acquired title. The seller received a 30-year bond not negotiable during the first 5 years of its term except to meet certain emergencies. The price was set by a formula similar to that of the Temporary Price Control Ordinance framed by the Japanese and put into effect in 1941. Appeals could be made to prefectural commissions.

The land thus acquired was then to be sold by the government to eligible persons selected by the land commissions. In general, the land was sold to the tenant who was the cultivator as of November 23, 1945 (the date newspapers carried accounts that the cabinet was drafting an agrarian

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8. Hewes, "On the Current Readjustment of Land Tenure in Japan," p. 252.

reform bill). The price to the cultivator was usually the same as that paid the owner. The new owner could pay a lump sum or pay in installments over 30 years at 3.2 per cent interest. Thus the law avoided direct negotiations between tenant and landlord, a procedure which had been a stumbling block in prewar attempts at reform.

The principal administrative machinery consisted of the local and prefectural commissions elected by farm households. The local commissions had five tenants, two owner-cultivators, and three landlord representatives. Prefectural commissions had 20 members distributed in the same proportions. The Minister of Agriculture and Forestry was directly responsible for the program. In all some 116,376 commissioners were engaged in the program.

The land reform law also set minimum standards for leasing that land which remained in the hands of resident landlords. Rents could not exceed 25 per cent for paddy fields nor 15 per cent for upland fields, must be paid in cash, and tenant contracts had to be written.[9] Further sale of land must be approved by the local land commission.[10]

Later legislation followed the land transfer and tenant protection laws. These laws dealt with agricultural credit, undersized holdings, and co-operatives.

Ends of the Agrarian Reform

The ends of the agrarian legislation may be fairly well determined from the memorandum to the Japanese government quoted above and from

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9. Ibid., p. 252 ff.

10. Hewes, Japanese Land Reform, p. 33.

statements of workers concerned with the reform.

It seems clear that one of the principal aims was not economic, but to "democratize" the Japanese and remove the political power which had enabled the military leaders to gain control of the nation. This viewpoint is borne out in the writings of two of the principal agricultural authorities with SCAP, Gilmartin and Ladejinsky.[11] They write:

> General MacArthur in his land-reform directive of December 15, 1945, ordered the Japanese Government "to take measures to insure that those who till the soil of Japan shall have a more equal opportunity to enjoy the fruits of their labor," not as an end in itself but in order to "remove economic obstacles to the revival and strengthening of democratic tendencies. . . ."

A Japanese student of the reform, Tokoro,[12] has arrived at a similar conclusion, asserting the principal end was "to guarantee the fundamental human rights." He continues to extract three equal subordinate ends-in-view: (1) fostering and maintaining democratic tendencies, (2) increasing agricultural productive capacity, and (3) distributing income "widely, or more specifically, to give farmers the fruits of labor fairly."

It would seem fair to assume, however, that the framers of the reform were well aware that the transfer of ownership itself would likely have little effect on productivity. The goal of efficiency seems not to have been considered important in the program. Gilmartin and Ladejinsky,[13] for instance, carefully point out the efficiency of Japanese farming in

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11. William M. Gilmartin and W. I. Ladejinsky, "The Promise of Agrarian Reform in Japan," Foreign Affairs, Vol. 26, No. 2 (January, 1948), pp. 312-324.

12. Hideo Tokoro, Japanese Land Reform Program (Unpublished M.S. thesis; Ames: Iowa State College Library, 1951), p. 15.

13. Gilmartin and Ladejinsky, op. cit., p. 321.

terms of yield and that the principal obstacle to increasing labor efficiency is the "extensive subdivision of the land." The framers of the land reform did, however, seem to hope that during the redistribution process some rationalization would occur, increasing labor efficiency.

From the viewpoint of the necessary conditions for economic development suggested earlier, therefore, it would seem fair to say that the principal economic aim of the reform was concerned with assuring the cultivator would receive a return more in accord with his contribution. Less importance was attached to increased efficiency of labor or capital, and such efficiency gains as were anticipated were thought of as resulting principally from consolidation.

Nonetheless, it should be explicitly recognized that economic goals were not ignored. This is indicated in part by the choice of a number of agricultural economists to be attached to SCAP to help with the agrarian reform. It is explicitly recognized in a statement by Hewes:[14]

> The broad outlines of the occupation orders we prepared were based on surveys we made in rural Japan. These showed that the Japanese farmer confronts terrific physical handicaps. He needs all the incentives he can get. He needs all the imagination and all the flexibility of running his own farm of which he is capable if he is to function effectively as a vital factor in the Japanese economy. Restrictions, social straight jackets, inequitable economic burdens all hinder him from doing the job of feeding a vast and growing population. The Japanese farmer must be a free man in a free democratic society if he is to do his job and if individual initiative in a private economy is to work at all.

Although much stress was attached to the goal of democratization, it seems clear from this sort of indication that the United States occupation

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14. Laurence I. Hewes, Jr., quoted in Price Gittinger, The Promised Land--Japan (Television script prepared for the Fund for Adult Education, WOI-TV, Ames, Iowa, February 27, 1954), p. 12.

authorities assumed a high degree of complementarity existed between democratization and economic development. It was probably felt this complementarity extended over quite an extensive range of action while the competitive relationship was relatively abrupt and existed only toward the limit of democratization.

In any event, it may be pointed out within the means-ends framework there is not necessarily a conflict between economic and noneconomic goals in agrarian reform programs. It is argued, however, that economic development is an important goal of agrarian reform. Agrarian reforms must be therefore tested to determine if they meet the necessary conditions for economic development, and their economic effect appraised if a rational choice is to be made between economic and noneconomic goals.

Success and Failure Elements of Agrarian Institution Adjustments

Lessening uncertainty arising from conditions of tenure

It is clear from the literature dealing with agrarian reform in Japan that the principal attention of those who framed the agrarian reform was to increase the security of tenure in order to assure rewards in accordance with the contribution.

Promotion of owner-occupiership. The principal means chosen to increase the security of tenure was to promote owner-occupiership through a vast program of ownership transfer from landlords to cultivating tenants.

Judged strictly from the standpoint of the effectiveness of the transfer program itself, there can hardly be any doubt the program was successful. The principal measures of the agrarian reform legislation were concerned with transfer, and the principal administrative effort bent on

accomplishing the transfer. By the end of 1948, Hewes[15] was able to report, the transfer had "completely reorganized the pattern of land ownership and of landlord-tenant relations." The area of land operated by tenants had fallen from 46 per cent of the arable area in 1946 to 12 per cent. Owner-operators increased from 36 per cent to 70 per cent. Landless tenants dropped from 27 per cent to 6 per cent. More than 3 million farmers--over one-half of all farmers in Japan--had purchased land. Some 7.5 million acres of land had changed hands.[16] Some 12 million separate transactions were involved.[17] "These accomplishments," Hewes[18] asserts, "mark the end of the feudal land tenancy system of Japan, an economically unsound tenure arrangement which has existed since the Meiji Restoration in 1868." Table 12 shows the change in the status of Japanese cultivators.

Little of the criticism directed toward the agrarian reform is concerned with the extent or effectiveness of the transfer program itself. Eyre[19] comments the "redistribution of cultivated land was accomplished with remarkable speed and effectiveness considering the scope of the task involved." One criticism, however, concerns the failure to include forest land in the transfer program. In Japan, "there is a close relationship

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15. Hewes, Japanese Land Reform Program, p. 7.

16. Ibid., p. 71.

17. Ibid., p. 73.

18. Ibid., p. 7.

19. John D. Eyre, "Elements of Instability in the Current Japanese Land Tenure System," Land Economics, Vol. 28, No. 3 (August, 1952), pp. 193-202.

between field and forest" in the agrarian economy."[20] Farmers obtain firewood, charcoal, pasturage, and compost from forest areas. In mountainous areas traditional rights to use designated forest plots accompanied the rights to cultivated land. Thus when the transfer omitted the forest land, it also left in the hands of the former landlords a fruitful source of income, and, more importantly, a "chance to coerce tenants desirous of more independent action."[21] This has sapped the effect of the reform to a minor extent, although it does not seem to have become serious as yet. It might, in hard times, provide a tool for landlords to reassert their power. Just why the transfer did not include forest lands is not clear, although it seems it was partly due to the complications of rights in forest lands, and in part due to a failure to realize the interrelationships between forest and arable land on the part of the occupation authorities.

Many of the recent criticisms of the transfer program have centered around the prices paid for expropriated land and the consequent income redistribution effects. The memorandum from SCAP specified "equitable rates" be paid for the land to be transferred. However, no adequate market price existed by which to determine a fair price. As it worked out, the prices paid were "so low as to be almost confiscatory," as Grad[22] comments. However, he continues, "this situation came about against the wishes of the legislators and without pressure from SCAP." He continues to explain that

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20. Ibid., p. 200.

21. Ibid.

22. Grad, op. cit., p. 123.

the Japanese government had frozen farm prices at the level prevailing on September 18, 1939. During the war, tenants were ordered to deliver grain paid in rent directly to the government which in turn compensated landlords. But the government paid tenants at a higher rate for rice than it compensated the landlords. By the end of 1945 tenants received 300 yen per koku (approximately 5 bu.), but landlords were paid only 55 yen, or 18 per cent of the price paid to tenants. Since the government could not recognize black market prices without destroying the "whole flimsy structure of fixed prices," Grad[23] explains, "when the government came to fix land prices in connection with land reform, only one set of prices was available, namely that of 1939." As it worked out, landlords of the largest class received "virtually nothing."[24] The actual price came to some $10.87 per acre of paddy land. In 1947, the "crop grown on one acre, if sold on the Tokyo wholesale market, brought . . . more than double the purchase price of land."[25] Several other critics have pointed out this problem. In defense of both Japanese government and occupation officials it can be said the price levels were not their fault, and, furthermore, it was "the wartime government of Hideki Tojo which cut the bond between the landlord and his land."[26] One result of the low prices for land was that

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23. Grad, op. cit., p. 123 f.

24. Harry Emerson Wildes, Typhoon in Tokyo (New York: The Macmillan Company, 1954), p. 227.

25. Ibid.

26. Grad, op. cit., p. 124.

by 1951, 76 per cent of the amount owed by new owners had been repaid.[27]

The fact that the wartime Japanese government had paid landlords only a fraction of the rental value based on commodity prices paid tenants was an important contributory factor to the relatively small resistance to the land transfer program on the part of landlords. Raper[28] reports the greatest dissatisfaction with the land reform came from the landowners with only slightly more than the legal retention limits. They had looked upon the acreages as a basis for educating their children, setting up new households, or some other matter closely related to their family's future. He continues:

> The larger landlords appeared to have been less immediately disturbed. Among the reasons seem to be that many of them have alternative opportunities for making money, such as income from forest holdings, and from business other than agriculture that they might enter. Furthermore, the income opportunities of the larger landlords from this leased out land had already been undermined by legislation which had shifted the basis of rent . . . to a relatively low cash rent . . . and by special tax legislation . . . which subjected landlords to heavy levies. . . . In addition to all of this, many of the tenants were kinsmen or long-time residents of family lands, and over the years a considerable ritual of responsibility and obligation had developed, and not infrequently landlords found themselves encouraged to play the role of the father. As a result of all these considerations, many of the landlords had come to feel that the tenant families were not wholly without claim to the land they cultivated.

Finally, there is no doubt that a major reason for relatively small resistance on the part of landlords was the realization that behind the

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27. Keiki Owada, "Land Reform in Japan," in Conference on World Land Tenure Problems, Proceedings, Part 1 (Madison, Wisconsin, October 8 to November 20, 1951), unpaged.

28. Arthur F. Raper, "Some Effects of Land Reform in Thirteen Japanese Villages," Journal of Farm Economics, Vol. 33, No. 2 (May, 1951), pp. 177-182.

reform lay the military power of the occupation. While never invoked, this military power could not have been overlooked by the landlords.

Most of the attempts to evade the transfer program on the part of the landlords came in efforts to gain a cultivating status before the reform took effect. The government overcame this by establishing the land reform on the basis of the tenure situation as of November 23, 1945. Backed by the authority of the occupation, Japanese administrators were apparently able to prevent most evasions on the part of landlords.

Another criticism of the manner in which the transfer program was operated centers on the income redistribution effects. Campbell[29] centers his principal criticism around the assertion that the redistribution was "inequitable because it did not affect persons with the same incomes in the same way." He cites three classes of inequities: (1) poor families who were not tenants did not receive any aid (this seems to refer to urban families in particular), (2) the "laws did not raise the incomes of owner cultivators" who were not renting land, and (3) rich tenants cultivating large, fertile fields gained more than poor tenants cultivating poor fields. It is hard to see how the first two criticisms can be considered important in view of the stated aims of the transfer program to assure a return more nearly in accord with contribution in the agricultural sector of the economy. The reform clearly was not intended to benefit urban families; other kinds of economic development must be initiated to help them. As to the last, it is hard to conceive of an alternative means of

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29. Colin D. Campbell, "Weak Points in the Japanese Land Reform Program," Journal of Farm Economics, Vol. 34, No. 3 (August, 1952), pp. 361-368.

distributing land which would be administratively feasible. It seems the income distribution effects of the reform measures were as equitable as could be anticipated. A second criticism levied by Campbell, that the "new tenure system has disregarded almost completely the desirability of allocating farms in the future to the most efficient operators" as a result of transfer and price controls may be more cogent, although there are indications that these controls are being relaxed. Further, the limited alternative opportunities may outweigh the limited gains in efficiency which might come within the existing cultivation patterns.

Of much more interest than these criticisms about the operation of the program per se are questions about the permanent effectiveness of the program in remedying the evils of tenancy which it set out to eliminate. It is, of course, much too early to make any final determination. There are indications, as pointed out by Eyre,[30] that larger landlords have maintained a superior economic and social status in the agrarian community as a result of their forest and business activities. "The many small landlords," he reports, "have been squelched effectively by the land reform." He considers the question of whether the former landlord class poses "immediate danger to the land tenure system currently in use" turns on future regulations concerning commodity prices, and land prices, and transfer restrictions. The most important reason why former landlords pose no threat is that "agricultural land for rental purposes is currently not a worthwhile investment because of high land taxes, low tenant fees

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30. John D. Eyre, "The Changing Role of the Former Japanese Landlord," Land Economics, Vol. 31, No. 1 (February, 1955), pp. 35-46.

payable in cash, the high cost of land, and the control of rice marketing. . . ." On this point he is sustained by Grad[31] who asserts "fear of a rapid concentration of land in a few hands is at present groundless" because of high taxes and low rice prices. He foresees no immediate indications which would cause substantial changes in these conditions in view of domestic Japanese and world economic and political trends. It would seem, therefore, that in the immediate future, at least, the accomplishments of the redistribution program are likely to continue. (There is, however, a danger apparently arising in problems of agricultural credit and indebtedness.)

One current trend which concerns some writers is the emergence of some transfers of land gained by small owners during the redistribution program. Tokoro[32] reports that 0.6 per cent of the total arable land was transferred in 1950 and 0.7 per cent in 1951. There is a wide variation of opinion regarding the importance of these transfers. Wildes[33] sees them "undermining the spirit of land reform," while Ladejinsky,[34] holds these transfers indicate a strengthening of the owner-occupier principle of the redistribution program. He bases his contention by citing figures which indicate the current transfers are only one-eighth to one-ninth of prewar sales, and that upper limits on acquisition are set by legal limits

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31. Andrew J. Grad, Land and Peasant in Japan (New York: International Secretariat, Institute of Pacific Relations, 1952), p. 212.

32. Hideo Tokoro, Is the Japanese Land Reform Program Being Undermined? (Tokyo: Unpublished manuscript), p. 9.

33. Wildes, op. cit., p. 231.

34. Wolf I. Ladejinsky, paraphrased in Hideo Tokoro, Is the Japanese Land Reform Program Being Undermined? (Tokyo: Unpublished manuscript), p. 2.

of land ownership. For the present, at least, this increase in transfers does not seem to pose a serious threat.

On the whole, taking the various criticisms into consideration, it would appear the land redistribution phase of the postwar Japanese agrarian reform has been successful in its stated aims of putting land into the hands of those who cultivate it. There does not seem to be a substantial immediate threat to this accomplishment, given present conditions. The most serious threats come from changing conditions arising outside the agrarian sector of the economy which may adversely affect the whole Japanese economy.

Increased security of tenant expectations. Since the land redistribution program was never intended to eliminate tenancy altogether, the agrarian reform program included substantial measures to increase the security of tenancy expectations. Principal among these was the limitation of rent payments to 25 per cent for paddy fields and 15 per cent for upland fields, payable in cash, with tenancy contracts written.[35] The written contract provision is certainly desirable, and apparently is being put into effect. On the point of certainty, however, the situation is less satisfactory. The law states that a landowner may not "terminate or rescind the lease or refuse its renewal" unless certain conditions exist. One such condition arises "where the operation of the land by the lessor himself is deemed reasonable or where there exists any other just cause."[36]

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35. Hewes, Japanese Land Reform, p. 33.

36. Grad, "Land Reform in Japan," p. 131.

Grad[37] concludes, "thus, the security of the contract is left in doubt. Under existing conditions a landowner can easily adduce good reasons why he should undertake cultivation of his land himself." This enables landlords, relying on the uncertainty of tenure, to conclude secret agreements nullifying the ceiling on rents. Eyre[38] reports landlords have taken opportunity of the vague provisions of the law to regain possession of cultivated properties from cultivating tenants "enabling many tenants to increase their cultivated acreage to the limits imposed by law even though it entails tenant distress." The total amount of land involved in 1949 was put at 1.2 per cent of the total land purchased by the government for transfer.

Compensation measures do not seem to have been passed at all.

Reducing high fixed costs to the operator

As mentioned earlier, the agrarian reform law set a limit of 25 per cent of the crop on paddy land and 15 per cent on upland land as the legal rent ceiling. Little evidence is available to indicate whether these ceilings are being effectively enforced, although since only some 12 per cent of the land is now tenanted, the magnitude of the problem is probably not serious. There are potentials for evasion, as mentioned earlier, in vagueness of the law regarding repossession. Wildes[39] reports:

> Landowners, dissatisfied with rent ceilings of 2,286 yen per acre (less than $7 a year) for rice lands, circumvented the law by

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37. Ibid.

38. Eyre, "Elements of Instability in the Current Japanese Land Tenure System," p. 199.

39. Wildes, op. cit., p. 231.

> extorting additional payments in kind, and, when these were refused, illegally evicted the tenants; 325 such cases occurred in Yamagata prefecture alone during 1951. Legal rents were tripled thereafter.

Judging from the bulk of the literature, however, the evasion of rent ceilings is not currently an important problem.

Reducing noncontiguous tracts

Although fragmentation is a serious problem in Japanese agriculture little has been done to overcome it. The agrarian reform authorities had hoped to be able to effect some consolidation during the process of transfer but "comparatively little"[40] was accomplished. One reason was that the redistribution applied only to tenanted lands, and the pattern of ownership was such that many of the tenants also owned some land. Local commissions were required only to "consider" the possibility of consolidation. But a prime reason was a feeling on the part of the government and occupation authorities that "transfer of land to tenants would be greatly delayed if there were a simultaneous consolidation program."[41] As for the farmers themselves, they strongly preferred to retain the holdings they were used to cultivating. As a result fragmentation continues to be an important source of resource inefficiencies in Japanese agriculture and a problem remaining to be solved.

Overcoming undersized holdings

The extremely small size of holding in Japanese agriculture has long been recognized as an important problem. Gilmartin and Ladejinsky[42]

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40. Raper, "Some Recent Changes in Japanese Village Life," p. 8.

41. Hewes, Japanese Land Reform Program, p. 84 f.

42. Gilmartin and Ladejinsky, op. cit., p. 321.

assert, "there can be no doubt that the fundamental problem of agrarian Japan is the excessive subdivision of the land to the point where the vast majority of farms are too small to furnish their operators with an adequate livelihood." Prewar Ministry of Agriculture surveys had indicated no tracts under 4.5 acres could return a profit unless women and children worked both in the fields and in cottage industries.[43] Yet Table 12 indicates more than 90 per cent of the cultivation units in Japan comprises less than this area. Some 40 per cent has less than 1.25 acres.

The agrarian reform made no pretense of attempting to solve this problem. It concentrated on redistributing existing units to the cultivators. Where such tremendous population pressure exists, it is impossible that any agrarian reform measures alone could make any progress in overcoming the problem. The one effort made under the agrarian reform in this connection was to forbid transfer of land to tenants who rented less than .49 acre.[44] In general, these plots belonged to part-time cultivators who earned the majority of their income in nonagricultural occupations.

The redistribution program not only failed to overcome this situation, but in some measure aggravated it. Table 13 indicates a slight increase in the smaller holdings, although there appears to have been some reduction in the tracts under 1.25 acres as a result of the .49 acre transfer minimum. Eyre[45] notes that "small, uneconomic plots of cultivated land are more

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43. Wildes, op. cit., p. 221.

44. Hewes, Japanese Land Reform Program, p. 86.

45. Eyre, Elements of Instability in the Current Japanese Land Tenure System, p. 201.

numerous than ever," and concludes the redistribution program "aggravated the situation." (His figures indicate the reform has "increased substantially the number of households operating less than 1.25 acres of cultivated land." These do not coincide with those quoted by Hewes and Grad reported in Table 13.)

Since the enactment of the new Japanese constitution which became effective on May 3, 1947, there has been increasing concern about the possibility of further subdivision. The constitution forbids discrimination in economic relations because of family origin, and has been interpreted to require equal division of property. To prevent this happening, there have been widespread reports of younger sons and daughters renouncing their interest in agricultural holdings. Grad[46] notes the government was preparing to pass legislation which would make undivided succession legal, and Tokoro[47] notes that the government will loan money on the value of a holding to enable one co-heir to buy the interests of others. Currently, the Japanese seem to have averted the worst effects of further subdivision. Tokoro[48] reports "divided succession is seldom practiced" and cites Ministry of Agriculture figures indicating divided succession was actually practiced in 3.1 per cent of the transactions in 1951. Nevertheless, the problem of preventing further subdivision still remains with the Japanese.

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46. Grad, Land and Peasant in Japan, p. 202.

47. Hideo Tokoro, "Agricultural Credit in Japan," in International Conference on Agricultural and Cooperative Credit, Proceedings, Vol. 2 (Berkeley, California, August 4 to October 2, 1952), pp. 835-885.

48. Tokoro, "Is the Japanese Land Reform Program Being Undermined?," p. 43.

Reducing underemployment of land arising from the pattern of ownership

Underemployment of land is probably less of a problem in Japan than in any other country on earth, and thus was not dealt with in the agrarian reform program.

Reducing title insecurity

Title insecurity was not an important problem in Japan. Local registry offices had accurate descriptions of arable land, and during the reform "each parcel was checked with the local tax office and thereafter with the local land registry office as to accuracy of boundaries and adequacy of title."[49] Each parcel was then formally transferred to the government, and thereafter retransferred to the new purchaser. Some 60 million entries in the official land registry books were involved. "This gigantic task of registration was virtually complete by the deadline which had been set, March 31, 1950."[50]

There is, however, still a need for improvements and regularizations in the water right relationships. Water rights are controlled by customary relationships, which is a "big obstacle to the best use of water resources."[51]

There are "incessant conflicts" among various parts of the village about the use of irrigation water and drainage. Tokoro suggests these problems should be solved on an integrated basis over a whole region such

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49. Williamson, op. cit., p. 173 f.

50. Ibid., p. 173.

51. Tokoro, Japanese Land Reform Program, p. 132.

as a river basin. (Ackerman[52] suggests basin-wide development would be sound from the physical resources standpoint, too.)

Reducing high fixed cost of operating credit

The original memorandum referring to land reform specifically mentioned providing "access to long and short term farm credit at reasonable rates,"[53] and subsequent legislative measures were enacted to strengthen the agricultural credit system. However, a survey of the literature indicates a lack of adequate agricultural credit still handicaps the Japanese farmer and threatens the stability of agrarian life.

At present, commercial banks supply very little of the short-term credit for agriculture, and virtually all of it is supplied by co-operatives.[54] Most of this short-term credit is provided through a system of discounting of bills introduced in 1948. Under this system, co-operatives advance items of production to small farmers at a rate of 9.1 per cent. These bills are then rediscounted at the Bank of Japan through the Central Co-operative Bank for Agriculture and Forestry. The agriculture bill system depends on a form of collective liability. Any farmer wishing to borrow much share the responsibility of repayment with at least five other persons in the same community. Farmers may use the bill system only to secure items of production. In cases of "natural calamity" the

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52. Edward A. Ackerman, Japan's Natural Resources and Their Relation to Japan's Economic Future (Chicago: The University of Chicago Press, 1953), p. 460 ff.

53. Hewes, Japanese Land Reform Program, p. 97.

54. United Nations Department of Economic Affairs, Progress in Land Reform (New York: United Nations, 1954 [United Nations Publication Sales Number 1954.II.B.3]), p. 224.

government assumes the responsibility of repayment.[55]

The agriculture bill system is only barely adequate.[56] In fact recent reports from northeastern Japan indicate the reappearance of the pernicious practice among farmers of selling their daughters into white slavery.[57] Restrictions on transfer of land aggravate the credit problem.

Thus provision of adequate short-term credit remains one of the most difficult problems in Japan today. The co-operatives are hardly strong enough to fill the gap any more than the limited program of the agriculture bill system. Eyre[58] comments that without this aid the farmer would be in the "same distress as before the land reform" and "without the security once extended by the landlord." If government aid is reduced and land transactions are liberalized, he contends, "the future reveals nothing but the promise of indebtedness and . . . certain reversion to tenancy." Effective measures do not seem to have been initiated to date.

Reducing high fixed cost to the owner

Much of the financial distress indicated above is traceable to the extremely high level of taxation imposed on farmers in Japan. In 1948, it was estimated more than 60 per cent of farm income was necessary to meet taxes. The Economic Stabilization Board estimated that in 1948 farm expenses had risen 75.3 per cent over the 1946-1947 level, and taxes had risen 181 per cent. Continued controls on agricultural commodity prices

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55. Tokoro, "Agricultural Credit in Japan," p. 875 ff.

56. Eyre, "The Changing Role of the Former Japanese Landlord," p. 44.

57. Grad, Land and Peasant in Japan, p. 210.

58. Eyre, "The Changing Role of the Former Japanese Landlord," p. 44.

had kept them from rising commensurately. A continuation of this squeeze has been experienced since then. Grad[59] comments that "what peasants have gained in that respect (rent the tenants paid to the landlords), they lost to the central and local governments through taxes and compulsory deliveries." Thus the shift in ownership under the redistribution program is hardly an unmixed blessing. Furthermore, it may become even less of an advantage if there should be a serious agricultural depression. The solution to these problems cannot be easy. Grad[60] suggests the government probably cannot reduce taxes, but might be able to shift some of the burden by allowing rice prices to rise to a level more nearly in accord with world prices.

Providing legal machinery

An interesting innovation of the Japanese agrarian reform was the establishment of the village commission system to handle the transactions in the redistribution program and to approve rental contracts. Hewes[61] assigns a major part of the success of the transfer program to the commission system. These commissions consisted of three landlords, two owner-occupiers, and five tenants. The members were elected by their fellows, i.e., tenant commissioners were elected by the tenants in the area, etc. There were 11,322 local commissions. They were charged with the designation of all the land to be transferred and determined the individuals who would be eligible to purchase land. The commissions met, on the average,

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59. Grad, Land and Peasant in Japan, p. 202.

60. Ibid., p. 212.

61. Hewes, Japanese Land Reform Program, p. 54 ff.

for from 1 to 4 full days a month, depending on the locality and the number of transactions. Decisions of the commissions could be appealed to prefectural commissions which consisted of 20 members in the same proportion as the village commissions and who were charged with general supervision of the village commissions. On the whole, the local commissions seem to have done an effective job, and to have justified the trust placed in them. Few instances of malfeasance seem to have arisen. Hewes[62] considers these commissions were "vehicles through which all the people cultivating agricultural land participated in executing the reform" and sees in the system "a guarantee of both the sweeping physical reorganization and its permanent character."

Grad[63] suggests the principal weakness of the commissions was they were weighted too heavily in favor of landlords. His fears of the influence of the landlords and their ability to block the reform seem to have been unjustified.

Dissemination of information

The importance of dissemination of information in the effectiveness of the agrarian reform in Japan seems to have been large. Before the war, Japan had "maintained one of the best systems in the world for the propagation of scientific agriculture and the giving of technical assistance to its farmers,"[64] so the educational effort was hardly new. Japan is also

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62. Ibid., p. 54.

63. Grad, "Land Reform in Japan," p. 129.

64. J. Merle Davis, "Land Tenure in Japan," in Marshall Harris and Joseph Ackerman (eds.), Agrarian Reform and Moral Responsibility (New York: Agricultural Missions, Inc., 1949), p. 122.

fortunate in having a literacy rate approaching 95 per cent.[65] Ladejinsky[66] suggests this is an important reason explaining "why the tenants of Japan were able to grasp the main provisions of the reform legislation." He credits the "excellent work of popularization done by the Japanese Ministry of Agriculture" as having "played a great role in the successful application of the program."

Raper[67] feels the village commission system itself "constitutes an important adult educational program, perhaps one of the most significant adult educational efforts ever launched."

Among the materials prepared by the Ministry of Agriculture to help farmers understand the reform were a motion picture, leaflets explaining how the reform would work and explaining the recall procedures, posters, pamphlets, books, and a peculiarly Japanese innovation: a traveling poster show "presented in several places in every village, sometimes by prefectural officials, at other times by members of young people organizations."[68]

Against these favorable reports of the effectiveness of the educational effort in promoting the agrarian reform must be balanced Eyre's[69] report that a survey in 1948 indicated the redistribution "was generally poorly understood by the very groups it was directed to serve." Most reports

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65. Owada, op. cit. (unpaged).

66. Wolf I. Ladejinsky, "Comments on Mr. Keiki Owada's Paper: 'Land Reform in Japan,'" in Conference on World Land Tenure Problems, Proceedings, Vol. 1 (Madison, Wisconsin, October 8 to November 20, 1951), unpaged.

67. Raper, "Some Recent Changes in Japanese Village Life," p. 12.

68. Hewes, Japanese Land Reform, p. 98 ff.

69. Eyre, "Elements of Instability in the Current Japanese Land Tenure System," p. 197.

indicate, however, that a substantial number of the farmers did understand the provisions of the law.

Continuing emphasis has been put on strengthening the Japanese extension services since the reform.[70]

Overcoming occupational immobility

The bitterest problem faced by the Japanese, as indicated previously, is that of extremely heavy population pressure. Although the most industrialized nation in Asia, pressure on the land is very great. The agrarian reform, of course, could do nothing about this transcending problem. Between 1939 and 1950 there was a 12 per cent increase in the number of farm households, despite the extremely small size of holding.[71] Although before the war 30 per cent of the households engaged in cottage industries,[72] this offers only limited hope.[73] Birth control measures are making headway in Japan; their influence is felt particularly in the city, and have had slight effect in the village. "Much more time will be needed before birth control can become a significant factor."[74]

The solution, obviously, lies in a transfer out of agriculture, but in a Japan faced with increasingly intense competition in foreign markets this is no immediate solution and hardly an immediate hope. Yet that is what must be done if the existing minuscule size of Japanese farming is not to become even smaller.

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70. Wildes, op. cit., p. 242.

71. Grad, Land and Peasant in Japan, p. 63.

72. Davis, op. cit., p. 122.

73. Grad, Land and Peasant in Japan, p. 195 ff.

74. Ibid., p. 208.

Evaluation and Prospects

Accomplishments of the agrarian reform

From the discussion above emerges a picture of substantial, although not startling, accomplishment as the result of the agrarian reform qualified by a feeling of uneasiness about the permanence of the reform.

From the standpoint of the necessary conditions for economic development, the most substantial accomplishment of the reform was the quite complete identification of labor efforts with rewards as a result of the thoroughgoing land redistribution and the controls on the remaining tenancy contracts. That taxes siphon off any gains does not obviate this gain. This is no doubt the most important economic accomplishment of the reform. How permanent these gains may be is another question; however, it seems that if the reform does, after all, fail to assure a return commensurate with effort, the causes of the failure will be less as a result of the means chosen to identify effort with return than as a result of external pressures on the agrarian society and a failure to increase output.

From the standpoint of increased efficiency the reform made no contribution. This was never a primary goal of the reform, but may be the cause of its ultimate failure. Grad[75] reports the "standard of life--as compared with the prewar period--has gone down" and that yields are either the same as prewar or less. The solution to the problem of increasing productivity, as has been repeatedly suggested, lies not within the framework of the agrarian society, but in providing opportunities for transfer

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75. Grad, Land and Peasant in Japan, p. 202.

out of agriculture. If something can be done along these lines, the redistribution program has laid the basis for assuring the results of increased productivity will go to the individual cultivators.

From the standpoint of increasing consumption per capita in the agrarian sector, the most promising means would be to reduce the extremely heavy tax burden levied on the agricultural producer. This may in part be accomplished as the price of rice is allowed to reach the world level (artificially low rice prices may be treated as a form of taxation). Consumption might be increased by shifting part of the tax burden itself to other sectors, though it seems unlikely this will be possible. If any means can be found to reduce the tax burden on the agricultural sector, the reform measures will enable the cultivator to reap the benefit. Such an increase in agrarian income would ease the tight credit situation which poses a serious threat.

The agrarian reform, of course, did not touch the problem of extremely small holdings, nor of heavy population pressure, both of which must be solved if efficiency is to be increased, but both of which cannot be solved by agrarian reform alone. Not only must the whole economy be considered, but world conditions have a direct bearing since the Japanese economy must expand exports if wealth is to increase, and since there is growing pressure on Japan to increase its level of armaments.

The agrarian reform, then, may be said to have realized substantial accomplishment. Even such a critic as Eyre[76] recognizes that "the

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76. Eyre, "Elements of Instability in the Current Japanese Land Tenure System," p. 202.

retention of only some of the elements of the present land tenure system, such as payments in cash instead of kind, will represent an advance over past conditions." The reform does not, however, justify the most optimistic plaudits it received. But the framers of the reform realized they were not solving all the problems. Gilmartin and Ladejinsky,[77] two of the most optimistic authors, fully recognized this when they wrote in 1948:

> Even the most thorough agrarian transformation will not solve all the problems of rural Japan. . . . Under the circumstances, amelioration of the lot of the farm population, rather than ultimate solutions, is all that can be hoped for. . . . Lasting answers to the problem can come only through expanded industrialization and commerce which decrease Japan's dependence on home-grown food and absorb the surplus rural population--and eventually from a falling birthrate.

Recent literature has expressed a feeling of uneasiness about the permanence of the gains of the reform in the face of pressing economic circumstances and conservative political gains. Former landlords are improving their positions within the villages, although they are not yet threatening the reform.[78] Eyre[79] feels "current trends do not engender optimism." Grad,[80] too, fears for the future, but reports:

> Overnight destruction of the land reform by decree is unlikely. The "achievements" of land reform are more likely to be destroyed by forces inherent in the economic, social and legal framework of the Japanese society as reconstituted after the war on a new basis and with a somewhat new balance.

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77. Gilmartin and Ladejinsky, op. cit., p. 323 f.

78. Eyre, "The Changing Role of the Former Japanese Landlord," p. 36.

79. Eyre, "Elements of Instability in the Current Japanese Land Tenure System," p. 202.

80. Grad, Land and Peasant in Japan, p. 214.

Nonetheless, Smythe[81] felt he could report, "despite the resurgence of the old elements, the picture is on balance a positive one. Farmers are growing more food, rural families are eating better, handling more cash, and owning their land in larger numbers than ever before." Only future efforts on the part of the Japanese themselves and future world developments can determine finally the contribution of the agrarian reform in promoting Japanese economic development or in improving Japanese social conditions.

Applicability of the Japanese experience to other areas

Several conclusions about the effects of the Japanese agrarian reform and its applicability to other areas seem justified.

In the first place, observers seem fairly well agreed that the redistribution program, as Ladejinsky[82] comments, "has taken the wind out of the political sails of the Communists." Whether with the current increase of difficulties amont peasants in the Japanese countryside this will continue or not is yet to be seen. But in a period when the Communists were able to gain control over the whole of China, in part by posing as agrarian reformers, Communists were able to poll only .3 of 1 per cent of all votes cast in Japan.[83]

A second conclusion is one which this study has repeatedly tried to emphasize: the solution to agrarian problems cannot be achieved in the

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81. Hugh H. Smythe, "Japan, America's Schizoid Ally," United Nations World, Vol. 7, No. 4 (April, 1953), pp. 27-30, 63.

82. Ladejinsky, "Comments on Mr. Keiki Owada's Paper: 'Land Reform in Japan'" (unpaged).

83. Ibid. (unpaged).

agrarian sector alone, and therefore agrarian reforms must be evaluated in terms of their effects on over-all economic development. This is painfully clear from the Japanese experience.

When it comes to the problem of transferring the means of accomplishing the Japanese reform to other areas of the world, one must recognize that the reform was carried out under the explicit direction of occupation authorities and backed by their military strength. Eyre[84] points out that, "in effect, the Japanese government implemented measures under Allied pressure that probably would not have been initiated under national sovereignty." These military pressures do not exist in other countries.

But other kinds of pressure do exist. There is the growing political power of peasant classes. There is the increasing recognition in Asia and other areas of the justice of the cultivator's claims. Finally, there is the extreme pressure of a militant Communism which is everywhere taking advantage of agrarian unrest to seize power and turn nations into satellites of the Soviet Union. These pressures are making nations aware of the necessity for agrarian reform, and in these circumstances, the Japanese experience becomes relevant.

It would see the Japanese agrarian reform has much of interest to other Asiatic countries from the standpoint of its highly successful use of local commissions, its quick and compulsory transfer of land to the cultivator, its failure to increase production, and the problems of adequate credit. In framing agrarian reforms in other areas to promote

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84. Eyre, "Elements of Instability in the Current Japanese Land Tenure System," p. 195.

economic development, leaders would do well to recognize both the success and the failure elements of the Japanese experience in order to make future agrarian reforms as effective as possible in promoting economic development and improving levels of living.

POLICY ASPECTS AND SUGGESTED FUTURE ALTERNATIVES FOR ACTION AND RESEARCH REGARDING AGRARIAN REFORM AND ECONOMIC DEVELOPMENT

This study has repeatedly attempted to establish the close and necessary interrelationship between agrarian reform and economic development. This interrelationship implies that in formulating plans for economic development in underdeveloped countries careful attention should be paid to the part agrarian reform may play in over-all economic development.

The attention to agrarian reform in over-all development plans is important if for no other reason than the fact that in underdeveloped nations a substantial proportion of the population earns its living in agriculture. More than 60 per cent of the population earns its living in agriculture in every nation of the Near East and of Asia except Japan. The same is true in most of South and Central America. The percentage engaged in agriculture runs to as high as 88 per cent in Thailand. Since a major component of economic development is increased per capita consumption as well as an increase in aggregate output, it would seem that unless this majority of the population is included in the over-all plan less development will be achieved than would otherwise be the case.

A closely related consideration grows out of the same basic demographic facts. Since agriculture is such an important segment of the underdeveloped economies, accounting for 50 to 70 per cent of the total national income in most of the Near East and Asia, it would appear agrarian development would be a fruitful means of helping accomplish over-all economic

development. The fact that 39 per cent of the world's population received a per capita income of less than 60 United States dollars in 1948 indicates the need for measures to foster economic development.

Guidelines for Agrarian Reform in Underdeveloped Countries

In planning and executing agrarian reforms in underdeveloped nations, the analytical framework and the analysis of problems and remedial alternatives in this study indicate certain guidelines for future action. These turn upon a recognition of the importance of agrarian reform in economic development.

Since agrarian reform and economic development are so closely interrelated, it would seem no agrarian reform measure should be proposed or carried out without a careful evaluation of its effect on over-all economic development. For example, a redistribution of land on an equal basis to tenants and agricultural workers in an underdeveloped nation may establish a pattern of cultivation in which holdings are too small to reach a level of efficiency sufficient to provide for an increasing subsistence norm. Such would be the case in India, where an equal redistribution of land would result in holdings of less than 2 acres each, well below the estimated minimum needed to provide a viable economic unit. Such small holdings are too small to have the resources to obtain credit and to survive periods of low prices. An equal redistribution of land, therefore, could create an obstacle to over-all economic development. Other measures such as tenancy regulation or group tenure may offer more suitable alternatives when the economic effects are evaluated.

A reform which distributes individual titles to group holdings may

open the way to a heavy burden of mortgage debt and to landlordism, as has occurred with the distribution of Annamite communal lands in parts of Indochina. A credit program based solely on equity guarantees may fail to reach those cultivators most in need of the credit, and become an obstacle for a program better suited to helping low-income cultivators increase their output, as has been the experience in Haiti.

Another point growing out of the earlier analysis is the importance of giving a careful consideration to the interrelationships which exist between various agrarian reform measures themselves. A reform undertaken in isolation may fail to exert its intended influence on economic development because of the absence of necessary ancillary measures. Perhaps the most striking example of this has come in programs which have redistributed land ownership to tenants or agricultural laborers without providing adequate credit. In such circumstances, individuals as a whole have not been able to realize the increased production which their new circumstances would encourage if adequate credit were available. This seems to have occurred in eastern Europe after World War I where redistribution programs failed to increase production to the extent expected because of a lack of adequate credit. A similar situation may arise if adequate information about improved techniques, better crop varieties, etc., is not made available to new small owners.

Finally, the analysis of remedial alternatives earlier is an ample demonstration of the many alternatives which can be suggested to overcome any given kind of resource inefficiency. Those concerned with agrarian structure changes should recognize that any given institution is at one time both an obstacle to further development and a resource. Blindly to

destroy an institution may fail to promote agrarian development. It would, perhaps, be better to institute a program of group tenure in areas where group traditions are strong than to institute a pattern of owner-operatorship based on fee simple ownership. The analysis above would indicate certain alternatives might be considered which would have many of the economic and social advantages of both owner-occupiership and group tenure, as would be the case in the Mexican ejido tenure system. Other resource inefficiencies, too, may be overcome in a variety of means, and to choose any one without full and careful consideration of all the others may result in a reform which fails to exert its full influence on economic development.

When these economic interrelationships are recognized, certain overall areas of emphasis for agrarian reform emerge from the earlier analysis of remedial alternatives.

Increased certainty of tenure expectations

A common cause of the resource inefficiencies which occur in underdeveloped countries is tenure uncertainty. This uncertainty is the intertemporal aspect of the necessary condition for economic development which requires that individual factors receive a reward in accordance with their contribution over the relevant time periods. The norm of certainty is to achieve an economic horizon which encompasses the longest planning period with which the cultivator is concerned in allocating his resources to achieve optimum efficiency. To increase certainty beyond this point would have no effect on planning.

Several remedial alternatives have been suggested to increase certainty. One is to increase security of tenure through regulating tenancy

conditions and providing for compensation upon removal. This has been highly successful in Great Britain and is being attempted in Bombay and other parts of India. Another means to increase tenure certainty is to transfer ownership rights from landlords to tenant cultivators, as was accomplished in Japan. Still another means is through establishing some form of group tenure as has been done in the ejido in Mexico, the proportional profit farm in Puerto Rico, and in the Gezira Scheme in the Sudan.

Operating and long-term credit provide a means of extending the economic horizon so that individual cultivators may plan an optimum allocation of their resources over time. Settling titles to land and water rights is an important means of increasing certainty which is being carried out in Jordan and Turkey. Finally, a system of agricultural taxation should be established which will assure cultivators they will be able to reap the benefits of increased efforts on the margin of agricultural output. This may call for programs which take full advantage of the incentive effects of taxation.

Assurance of factor rewards to resource contributors

The assurance of factor rewards to resource contributors is the intratemporal aspect of the necessary condition for economic development relating to factor rewards. It is, therefore, closely related to increased certainty. Remedial alternatives which would help increase the cultivator's assurance of reward would include such measures as the rent control measures instituted on Formosa, the control over the level of interest which several Asian nations have attempted although with little success, and an assurance that taxes would be levied equitably. Title settlement and regularization of tenancy contracts are also important. Uncertain titles are

a major obstacle to agrarian development in Haiti. Verbal tenancy contracts are common throughout most underdeveloped areas, although they are illegal in Japan and the conditions of tenancy are strictly limited by legislation in several states in India. The establishment of legal machinery which is within the reach of the cultivator, of information services which would enable the cultivator to assess his risk and uncertainty better and would provide him with information concerning his rights under the law are also means of helping to assure rewards in accordance with contributions.

Adequate marketing facilities would also seem to be important in assuring the cultivator a fair reward. This is an important need in parts of South America and in the rice economies of Asia. Inefficient marketing may reduce the cultivator's return on a marginal value product basis, while marketing under conditions of coercion may result in an arbitrary transfer of income from the cultivator to someone else. This occurs in Burma where moneylenders are able to take advantage of the inadequate credit facilities for marketing purposes.

Adequate resource base for the individual

It is important in fulfilling both the increased efficiency conditions for economic development and the subsistence norm condition that an agrarian reform program provide the individual with a resource base adequate to earn a living and from which agrarian development may proceed. A redistribution program which results in tracts of too small size as a result of heavy population pressure on land may fail to provide the individual cultivators with a resource base large enough to reach the subsistence norm, or large enough to be able to begin a process of internal capital

accumulation. This is an important problem in nearly all of Asia and in the Caribbean islands. Such circumstances mean other alternatives have to be explored. It may be of prime importance in an agrarian reform to increase occupational mobility. Group tenure rather than individual tenure may be indicated. Credit programs may be necessary to assure the individual cultivator will have the resources necessary to reach the optimum output level. Education may increase the management ability of the individual cultivator, perhaps the most important single resource at his command. Co-operatives may effectively extend his control over factors of production which alone he would not be able to secure, and may provide him with marketing outlets.

Adequate credit

Repeatedly, the remedial alternatives analyzed earlier have stressed the necessity of adequate credit, both in terms of amount of capital and of conditions under which the credit is granted and repaid. Credit is necessary to overcome many of the resource inefficiencies in the agrarian sector of underdeveloped countries. Little productive use of operating credit can be expected when the best terms available to a cultivator range from 30 to 100 per cent and up as is common in Asia and the Near East. Full use must be made of such remedial alternatives as co-operative credit societies and supervised credit programs now being widely attempted in South America to provide a more stable base upon which credit may be extended and which offer some assurance the credit will be used in the most effective manner. Throughout the underdeveloped countries of the world a pressing need is for operating credit for cultivators, but long-term credit should not be overlooked in areas where a gradual transfer of land

to owner-operators is considered desirable.

Suitable marketing facilities

Many cultivators fail to receive their full reward in accordance with their contribution because of a lack of suitable marketing facilities. A lack of suitable outlets may prevent an optimum allocation of resources. This is a problem in the development of meat production in southern Chile, for example. Special credit facilities, co-operatives, and encouragement of commercial marketing enterprises are among the promising remedial alternatives being tried in various areas. (Marketing has not been discussed in this study except as it was directly related to other areas of agrarian reform examined since it was felt marketing is beyond the scope of this study and deserving of separate, intensive investigation.)

Implications for United States Policy

From the discussion immediately above and the analysis of resource inefficiencies engendered by defects in agrarian structures in underdeveloped countries undertaken earlier, certain implications for future United States policy would seem to emerge.

Encouragement of domestic agrarian reforms in underdeveloped countries

The most important implication seems to be that the United States should design its policy in such a manner as to offer every possible encouragement to the implementation of suitable agrarian reforms by underdeveloped nations. This implication arises both from the nature of the success elements embodied in the remedial alternatives outlined earlier, and from the fact that an important part of United States policy in the past has been to encourage economic development, and, as outlined earlier,

agrarian reform offers one of the most promising means of accomplishing this end-in-view. The importance of the underdeveloped nations in the world as a whole can be better appreciated when it is realized 77 per cent of the population of the world lives in countries where the average per capita income in 1948 was less than 150 United States dollars in agriculture and less than 300 United States dollars in urban areas.

Since World War II the United States has by no means ignored the importance of agrarian reforms in underdeveloped nations. Accordingly, there have been varying amounts of emphasis put upon agrarian reform in foreign policy. The United States, for example, supported the United Nations resolution urging nations to institute agrarian reforms. In recommending the resolution, Isador Lubin,[1] the United States representative to the Economic and Social Council, said:

> We in the United States recognize that the attainment of peace and stability depends to a considerable degree on immediate and positive steps to correct systems of land tenure which exploit the workers on the lands, steps which will remove inequitable taxes on farm lands and agricultural products, eliminate unreasonably high rents and exorbitant interest rates on farm loans.

At the United Nations General Assembly in 1950, United States Secretary of State Dean Acheson[2] cited agrarian reform measures in India, Japan, and Korea as suggesting "what can be done . . . by processes of peaceful change, which respect the dignity of the individual and his right to self-reliance and a decent livelihood."

The efforts of United States occupation forces in Japan, in co-operation

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1. Department of State, Land Reform--A World Challenge (Washington: Department of State, 1952), p. 3.

2. Ibid.

with other Allied powers, indicate a substantial effort on the part of the United States to implement an agrarian reform in that nation. So do the efforts of the Joint Commission on Rural Reconstruction on Formosa. More recently, the institution of various programs of technical and economic aid has made important contribution to the agrarian sector of underdeveloped economies, though they have, in general, not devoted as much attention toward encouraging adjustments in agrarian institutions as would seem desirable.[3]

Although technical and economic aid have been an important part of United States foreign policy in recent years, there are indications this should become an even more important part of foreign policy, as suggested by former United States ambassador Chester Bowles[4] after he returned from a recent tour of Asia:

> In the present deteriorating situation an adequate loan-grant-technical assistance program is at least as important as the equivalent effort devoted to military defense.
>
> Those who thoughtlessly or in the name of economy seek to block this effort may carry a heavy responsibility when the history of the present period is written.

There are persistent reports that the current United States administration is preparing to increase economic aid to underdeveloped countries, particularly in Asia and the Middle East.[5]

In view of the necessary and intimate interrelationships which exist between agrarian reform and over-all economic development, the logical

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3. "Sharing of Technical Knowledge Is Transforming Retarded Sectors of the World," New York Times, May 24, 1954, p. 8, col. 1.

4. Chester Bowles, "We Are Losing in Asia," Des Moines Register, April 24, 1955, p. 8-M, col. 3.

5. Des Moines Register, "Figures Don't Match Words" [Editorial], Des Moines Register, April 24, 1955, p. 8-M, col. 1.

policy implication would seem to be that substantial emphasis should be put upon agrarian reform both in technical and economic aid programs, and in general foreign policy. To date, it would seem less has been done than would be most desirable.

One of the means of implementing agrarian reforms which should be carefully considered in formulating policy is increased assistance directed toward implementing suitable reforms. This should include exploring the possibility of extending financial aid by direct grants or loans and by making substantially increased capital available through a United Nations agency, the International Bank, or through private lenders. This financial aid might enable underdeveloped nations to compensate landlords as part of a land redistribution program and to provide funds from which to make loans to small cultivators. It should be noted that many means are available which do not involve outright grants, but rather involve loans which could be repaid the United Nations, the United States, or private citizens.

Supply-increasing aid at least equal to demand-increasing aid

An implication emerging from the discussion of the problems of population pressure in many underdeveloped nations is that the United States should balance its programs of technical and economic aid in such a manner as to assure that supply-increasing aid at least balances the effects of demand-increasing aid.

Economic development necessitates increased per capita consumption. If United States technical and economic aid is such that it increases the demand for goods and services, particularly food, more rapidly than the supply can be expanded, it is obvious that not economic development but

retrogression will be the result. Such a result is only too likely in view of modern progress in reducing the death rate through the use of relatively inexpensive drugs and insecticides. Clearly, this should be an important consideration in formulating foreign aid programs.

One of the most promising avenues for increasing supply in underdeveloped economies would be agrarian reform. In many of these nations, food and other agricultural products would be one of the obvious forms of goods which can be increased without drastic changes in the social structure and education pattern of the nations. Changes in agrarian structures are slight in comparison to the urbanization of a population and instructing it with industrial skills. Furthermore, food is one of the consumption goods most keenly desired by the people of most underdeveloped nations once economic development is under way and they have a chance to increase their consumption.

Better integration of policy toward agrarian reform

Recent incidents have indicated a better integration within the government of United States policy toward agrarian reform would be desirable.

One indication is the fate of the Inter-Agency Committee on Land Reform. This committee was established in 1951 by President Harry S. Truman to co-ordinate federal policy on agrarian reforms abroad in which the United States had an interest. It grew out of a recognition of the interrelationships between agrarian reforms and economic development in a peaceful society. The concept of land reform outlined by the Committee was broad, including not merely the transfer of land, but improving the conditions of tenure, rents, taxes, farmer marketing, credit, and farming methods. It thus was dealing with what has been termed agrarian reform in this study.

On this Committee sat representatives from the departments of State, Agriculture, Interior, and Labor and from the Economic Co-operation Administration, Technical Co-operation Administration, Mutual Security Agency, and other agencies later combined into the Foreign Operations Administration.

The activities of the committee included (1) considering official government papers relating to agrarian reform, (2) exchanging information by the agencies involved, (3) assisting the Food and Agriculture Organization in its expanded technical assistance program, and (4) helping keep proper government officials informed as to agrarian reform activities and their importance.

The Committee would have been a good means to help achieve a better integration of United States policy toward agrarian reform, and to keep officials concerned with policy formulation abreast of current developments. After a few initial meetings, however, the Committee was allowed to lapse, and since the end of 1951 has not met.

Another indication of a lack of the most desirable degree of integration within the government concerning foreign policy toward agrarian reform came in the recent dismissal of Wolf I. Ladejinsky. Ladejinsky was agricultural attache in Japan. He had been a principal architect of the Japanese agrarian reform, had acted as a consultant for the Joint Commission on Rural Reconstruction on Formosa, and was generally acknowledged as being one of the best informed authorities on agrarian reform. Representative Walter Judd[6] of Minnesota characterized him as "the most effective man

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6. Des Moines Register, "A Shameful Action by Benson" [Editorial], Des Moines Register, December 20, 1954, p. 8, col. 1.

we had in Asia." However, when his position was transferred from the jurisdiction of the Department of State to that of the Department of Agriculture at the end of 1954, Secretary Ezra Taft Benson termed him a "security risk" and refused to continue him at his post. He refused to rescind the action even when it was pointed out Ladejinsky had been cleared by strict Department of State security officials. The Department of State refused to intervene.[7]

An official statement of the Department of Agriculture also revealed what seems to be an important error of emphasis regarding agrarian reform in view of the desirability of encouraging domestic agrarian reform as a part of United States policy. "The purpose of an agricultural attache," it said, "is primarily to serve American agriculture. Personnel who have been trained and have been close to American farming operations and problems are best suited to fill these attache posts."[8]

Eventually, as a result of public outcry, the case was brought to the attention of Harold Stassen, director of the Foreign Operations Administration, and Ladejinsky was transferred to that agency to advise on agrarian reform action in Viet Nam.[9] This is probably a more effective use of his critically important talents than if he had remained as agricultural attache in Japan.

These illustrations of policy decisions regarding agrarian reform

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7. Clark Mollenhoff, "Benson Insists Attache a 'Risk,'" Des Moines Register, December 23, 1954, p. 1, col. 8.

8. "Official Explanation of Firing of Ladejinsky," Des Moines Register, December 24, 1954, p. 4, col. 3.

9. Clark Mollenhoff, "Red-Fighting Vietnam Post to Ladejinsky," Des Moines Register, January 6, 1955, p. 4, col. 1.

indicate more attention could profitably be paid this important aspect of economic development in underdeveloped areas. They indicate a need for a more carefully worked out policy regarding agrarian reforms and their place in foreign policy. As a start, it would seem desirable to reactivate the Inter-Agency Committee on Land Reform. The Committee should be given the staff assistance necessary to conduct research and should make firm recommendations regarding agrarian reform policies to various government agencies. These recommendations should be incorporated as important determinants in foreign policies and in the allocation of technical and economic aid. At the same time, it would seem desirable that a greatly expanded program of research on agrarian problems and remedial alternatives be undertaken with a view to determining means of implementing agrarian reforms within underdeveloped nations, and to determining means by which the United States can offer effective help. Much of this research could be done with the aid of federal funds in land-grant colleges and other research agencies outside the federal government.

Research Needs Regarding Agrarian Reforms

Much more information about agrarian reform alternatives, the economic effects of agrarian reforms, and about the agrarian structures in various underdeveloped nations is needed if the most effective possible measures are to be taken to promote economic development in underdeveloped areas. Such information appears necessary both for the underdeveloped nations to use themselves and for the use of various United Nations and United States officials planning programs of technical and economic aid.

Such increased information, of course, can only come through rigorous

and well-formulated research. At present, although many economists, sociologists, political scientists, and historians are interested in agrarian reform problems, relatively little actual research seems to be under way. In this country, perhaps the most recent example of a fairly intensive research program on such problems came in the preparation for the Japanese occupation and as American officials worked with the Japanese following the surrender. (Publications of several of these research workers were cited earlier.)

Within the United Nations Food and Agriculture Organization there is a limited program of research under way. The results of this research are being published in a series of monographs.

Much of the available literature regarding agrarian reforms was examined in the preparation of this study. In general, although fairly substantial, there is a lack of specific, region-by-region and country-by-country analysis of the obstacles to economic development posed by agrarian structures and possible remedial alternatives. Very little exact information is available on the economic effects of those remedial measures which have been undertaken.

If agrarian reform is to be better utilized as a means of economic development, more research characterized by careful statements of agrarian problems backed by close, analytical reasoning and statistical data is needed. This research should delimit agrarian problems as they exist in underdeveloped countries, should diagnose their extent, and should propose remedial hypotheses. There needs to be, also, many more careful analyses of the effects of remedial measures. Such research should make use of

available theoretical frameworks in economics and other social sciences.[10] Such research could well be carried out by government agencies and with the help of federal funds and private grants in land-grant colleges and other research institutions.[11] To be most effective, this research should be carried out in close collaboration with research workers in international agencies and in various underdeveloped nations. Indeed, financial assistance to enable foreign scholars to conduct research relating to agrarian reforms might constitute an effective part of foreign aid.

This analysis of agrarian structure defects and remedial alternatives indicates a number of problem areas relating to agrarian reform in which research has been carried out but in which more specific information on remedial alternatives is needed. They would include such problems as the following:

1. Land title and registration systems confuse ownership patterns and prevent the development of stable systems of land ownership and use through injecting an element of uncertainty about who will reap benefits from any long-term cultivation practices or capital improvements. More research is needed to determine remedial alternatives suited to various areas, the least expensive means of settling title, and the

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10. See, as an example of the kind of current work which should be increased, Gene Wunderlich, The Bombay Tenancy and Agricultural Lands Act as a Means of Agrarian Reform (Unpublished Ph.D. thesis; Ames: Iowa State College Library, 1955), 240 pp.

11. See John F. Timmons, et. al., Application to Ford Foundation for Grant of Funds to Help Establish and Operate the Land Problems Research Center (Ames: The Iowa State College, 1952), 21 pp.

costs and sources of funds for a title registration and settlement program in various areas.

2. Much descriptive information exists which indicates the tenancy systems in various areas hamper or prevent tenants from maximizing production, farming efficiently, conserving the soil, and developing herds and flocks. The economic theory for the analysis of these forms to determine the extent of such obstacles is well developed. Research is needed to analyze specific tenancy systems to determine means of overcoming these obstacles. Research is also needed to attempt to determine the effectiveness of tenancy regulation in areas where it has been attempted.

3. Taxation in relation to agricultural development is recognized as being quite important, yet little research is being carried out in this area. Studies are needed to indicate methods and effectiveness of taxing land held in group tenure, suitable assessment procedures for underdeveloped areas, the effects of inheritance and estate taxation and means of improving their effectiveness in reaching land occupancy and use goals, and a study of the relative merits of various incentive taxation devices.

4. It is known fragmentation and subdivision are widespread and cause low production, inefficient operation, poor land use, and uneconomic farms. More information is needed about the extent to which such resource inefficiencies may be traced to fragmentation and about the costs and benefits of

particular types of consolidation programs.

5. Concentration of ownership and control of land prevents maximum production, hampers equitable distribution of income from the land, and obstructs the development of an informed citizenry. More information is needed about how tax structures can be used to overcome inequitable ownership and control, and about costs and sources of funds whereby a transfer of ownership to individuals or groups may be effected.

6. Inheritance systems are known to perpetuate and cause land concentration, land fragmentation, and monopoly in land use. Further research needs to be directed toward the customs and mores of societies where this is a problem in order that effective remedial measures acceptable to the people may be instituted.

7. Inadequate capital supply and the absence of appropriate credit arrangements prevent capital from being used to the most desirable extent to increase agricultural production and to benefit cultivators of land. More information is needed on the effectiveness of credit co-operatives and supervised credit systems in meeting this need and about the costs of establishing adequate systems.

8. Where a land redistribution program or other agrarian reform is indicated as being desirable, more information is needed about means of financing the reforms and estimates of the costs and benefits.

9. Several means to increase certainty of tenure expectations have been proposed to overcome resource inefficiencies. More information is needed about tenure forms best adapted to local conditions, and the economic effects of those forms which have been adopted in underdeveloped areas.

10. Settlement in sparsely settled areas or on land brought into cultivation through drainage, irrigation, and other forms of reclamation is sometimes proposed as a remedial alternative. More information is needed on the extent to which this would be possible, the costs of bringing such land into cultivation, the benefits which could be expected, and the ways and means of establishing people on such lands under equitable and sound tenure arrangements. This would include information about how landed institutions in newly settled areas can be best adapted to the economic and cultural experience of the settlers in order that the institutions will expedite rather than hamper the establishment of the farmer on his new land.

11. More information is needed about effective devices by which to disseminate information about productive techniques and about improving the institutional environment of cultivators in underdeveloped countries. The use of such channels of transmitting information as extension services, co-operatives, mass-communication media, and commercial firms should be investigated.

13. It is known technical and financial aid sometimes fails to

reach the people on the land for whom it is intended. More information is needed about means to overcome land tenure arrangements whereby owners, creditors, and controllers of the land prevent these benefits from reaching those for whom they are intended.

14. Since United States aid to underdeveloped areas will probably continue, and since it would seem desirable that a larger proportion of this aid than in the past be directed toward fostering agrarian reform, more research needs to be directed toward how such aid can be extended in an effective, acceptable form. Such research should also be directed toward determining what other forms of financial aid--through international or private channels, for example--might be more effective than United States aid.

Considerable research information is available about these problems. However, more is needed so that underdeveloped nations can most effectively initiate further agrarian reform measures which will encourage economic development and so that the United States can make more effective allocation of foreign aid to further economic development through agrarian reform.